PHIL-04860

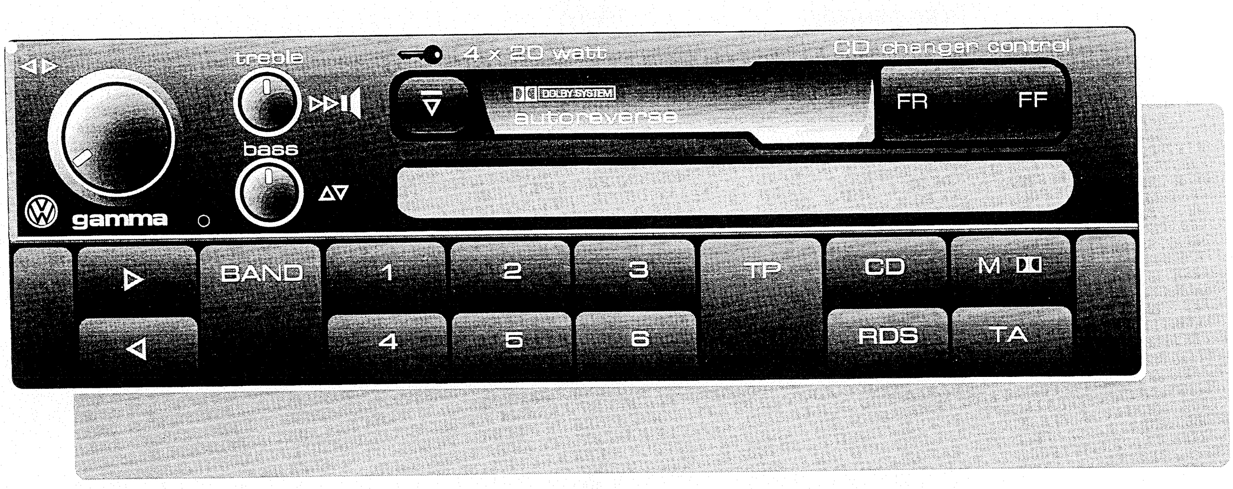
Cassette Car Radio 22 DC 588/71

Service
Service
Service

For repair instructions of the cassette deck see Service Manual SCA 4.4 (4822 725 23509)

Service Manual

12 V


treble
4 x 20 watt
CD changer control
DOLBY SYSTEM
autoreverse
FR
FF
bass
ΔV
gamma
BAND
1
2
3
TP
CD
M
4
5
6
RDS
TA

Published by Consumer Electronics

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4822 725 23513

PHILIPS

PCS 70 966

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Technical Datas

General

Power supply:	14,4 V
Currents:	2 mA (set switched off)
	ca. 2,9 A (4x5 W Cassette mode)
	ca. 2,8 A (4x5 W Radio mode)

Radio

FM frequency range	87,5 - 108 MHz
AM frequency range	153 - 1602 KHz
FM search grid	50 KHz (100 KHz displayed)
	(100 KHz RDS mode)
AM search grid	9 KHz
Presets	6 FM
	6 TP
	6 AS
	6 AM
FM search tuning	2 levels (LO/DX)
IF	10,7 MHz

Cassette

Number of tracks	2
Tape speed	4,76 cm/sec
Wow + flutter	0,35 %
Crosstalk	28 dB

Amplifier

Output	4 x 18 W at 4 Ω load
Channel separation max.	34 dB (1 KHz)

CONTROLS

1. On/Off, Volume, Search

turn: on/off + volume.
push: start search tuning on LOC level, scan all stations and play them for 5 sec.
Automatic switching to DX level after run through of LOC level.
push-push: start search tuning on DX level, scan all stations and play them for 5 sec.
push - while scan- search tuning: stop at the last received station.
hold: manual search tuning, after releasing the button the next receivable station will be reproduced.
push: - while ignition off and volume knob in on position: switch on set for 1 hour
push: - while cassette mode: reverse direction

2. Treble

push: sink and release the button
turn: adjust treble
pull-turn: adjust GALA volume

3. Bass

push: sink and release the button
turn: adjust bass
pull-turn: adjust fader

4. Eject

push: start/stop cassette playback
hold 1 sec: cassette eject

5. FF (FR)

push: - while cassette mode: wind/stop wind fast forward (backward)
hold: - while CDC mode: playback fast forward (backward), cue (review)

6. Tune next (Tune previous)

push: start search tuning up (down) to next receivable station.
Automatic switch to DX level if no LOC level station can be found
push-push: start search tuning in DX level up (down) to next receivable station
hold: start manual search tuning up (down) after 1 sec until button is released
push: - while RDS mode: scroll stations of learn memory (AS/TP/FM)
push: - while cassette mode: start MSS forward (backward)
push: - while CDC mode: next (previous) track of current CD

7. Band

push: scroll wavebands - FM - AS - AM - FM ...
hold 2 sec: search best FM-stations for learn memory (AS/TP/FM)

8. Presets

push: select stored stations of the preselected band
hold 2 sec: store actual station
push: - while CDC mode: select concerned CD

9. TP

push: select band where only RDS stations with TP- and EON-TP-information can be received and stored under presets.
- while TP band and no TP station selected: Switch to TP station if traffic announcement comes.
- while AM, FM or AS band and no TP station selected: start TP search

10. CD

push: switch between radio- (or cassette-) and CDC mode

11. RDS

push: RDS on/off (default on). AF, PI, PS, TP, TA, EON, PTY, MS (music/speech) features on/off.

12. S. Dolby

push: Stereo on/off
push: - while cassette mode: DOLBY (NR) ON/OFF
push: - while CDC mode: Shuffle play of actual CD

13. TA

push: mute and start TP search if necessary, switch from AM to FM-TP,
only traffic announcements audible in mono with TA-loudness.
push: - while cassette or CDC mode: interrupt reproduction of cassette or CD during TA
hold 1 sec: store actual volume as TA volume

SECURITY CODE HANDLING

Action	Displayed character
Activation	
Press 'TA' and 'TP' >3 sec.	CODE (for 3 sec.), -> 1000
Push presets '1...4'	digits of code number changes
Press 'TA' and 'TP' >3 sec.	SAFE

DEACTIVATION OF THEFT PROTECTION IS NOT POSSIBLE !!!

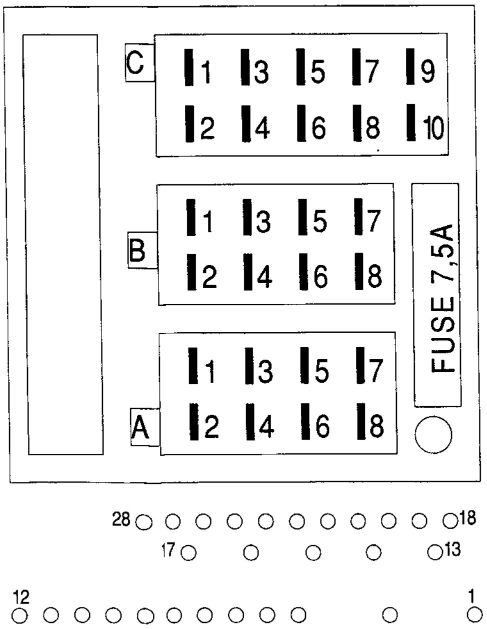
Code entering after power interruption	
	SAFE
Press 'TA' and 'TP' >3 sec.	1000
Push presets '1...4'	digits of code number changes
Press 'TA' and 'TP' >3 sec.	SAFE
Wrong code	
Enter wrong code number	SAFE 1 (flashing for first 3 sec.)
Press 'TA' and 'TP' >3 sec.	1000 1
Enter code.	
Enter wrong code number twice	SAFE 2 (flashing for first 3 sec.)
Wait 1 hour (do not switch off !)	SAFE
Enter code.	

Unknown code (lost code-card)
Contact your local VW-organisation to get the right code for your set.

! NOTE
If you have any problems with activation of security code or others which belongs to the code, send the set to:

Philips Apparatefabrik Wetzlar
Department SP-CS
Philipsstrasse 1
D - 6330 Wetzlar
GERMANY

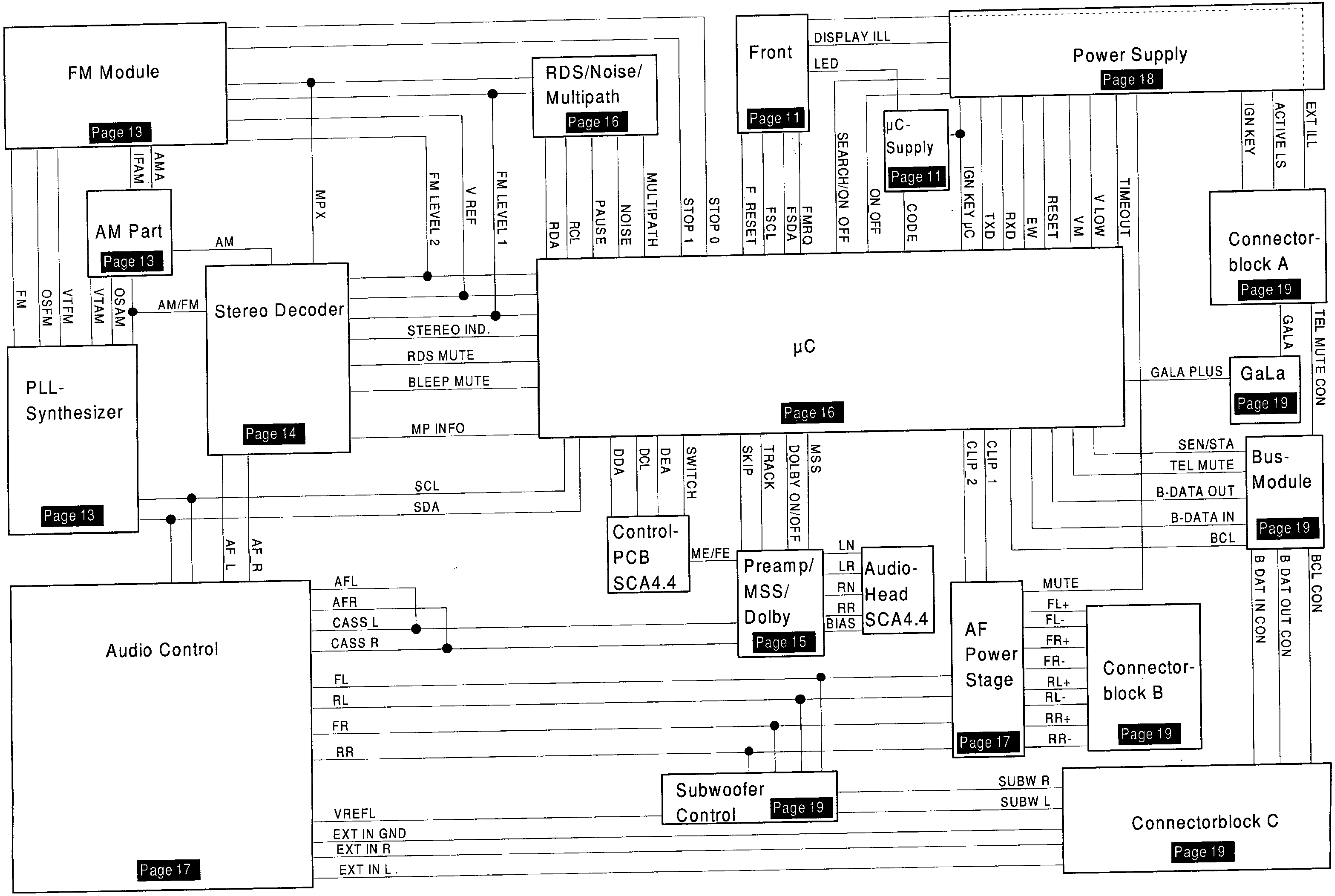
CONNECTORBLOCK 22DC588



C1: DATA IN	>27	C6: SWITCHED + (CDC)	>5
C2: CLOCK	>26	C7: EXT.IN R	>10
C3: EXT.IN GND	>25	C8: SUBW.R	>9
C4: DATA OUT	>17	C9: SUBW.L	>8
C5: GND	>6	C10: EXT.IN L	>7
B1: RR+	>19	B5: FL+	>22
B2: RR-	>24	B6: FL-	>21
B3: FR+	>23	B7: RL+	>20
B4: FR-	>14	B8: RL-	>13
A1: GALA	>16	A5: SWITCHED + (AERIAL)	>4
A2: TEL.MUTE	>15	A6: EXT.ILL.	>2
A3: SWITCHED + (LS)	>28	A7: PERM.+	>1
A4: IGN.KEY	>3	A8: GND	>18

PCS 70 970

WIRING DIAGRAM 22DC588



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SUBW L
Connectorblock C
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VREFL
EXT IN GND
EXT IN R
EXT IN L

TESTMODE

Press the FF - button more than 5 seconds to activate the testmode. The display shows two lines:

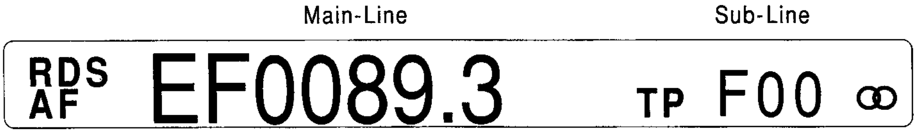
Main-Line Q R S S F F F

- F F F: last 3 figures of tuned frequency
  range 87.5 - 08.0 MHz
- S S: distortion counter (number of distortions in the last 10 sec.)
  range 00 - 96 hexadecimal
- R: RDS Data-quality
  range 0 - F hexadecimal
- Q: Qualitylevel of tuned frequency
  range 0 - F hexadecimal

Sub-Line F M N

- N: Noise
  range 0 - F hexadecimal
- M: Multipath
  range 0 - F hexadecimal
- F: Fieldstrength
  range 0 - F hexadecimal

Example



Push FF - button again (short) to see information about stored AF's of actual station:

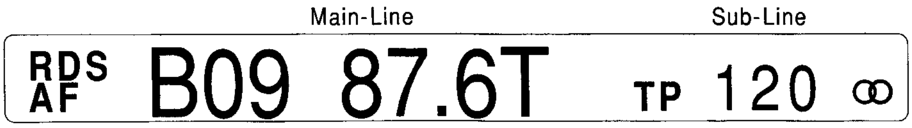
Main-Line (stored values) Q I P F F F F L

- L: Link indicator
  T = frequency linked to actual transmitter
  _ = frequency of other transmitter
- F F F F: tuned frequency
  range 87.5 - 108.0 MHz
- P: PI Confidence level
  range 0 - 7
- I: adjacent channel interference
  range 0 - 3
- Q: Qualitylevel of tuned frequency
  range 0 - F hexadecimal

Sub-Line (actual values) F M N

- N: Noise
  range 0 - F hexadecimal
- M: Multipath
  range 0 - F hexadecimal
- F: Fieldstrength
  range 0 - F hexadecimal

Example



Push FF- button again to switch back to testmode 1.
Switch set off or press FF - button more than 5 seconds to leave the testmode.

Checks 22DC588

Check	**Band**	∿	→●	⊘	●→	◠
Varicap- voltage	AM FM			153 KHz 1602 KHz 87,5 MHz 108 MHz	IC 7251 PIN 15 FM 1008 PIN 15	> 1,5 V < 6,0 V > 1,0 V < 6,0 V
Demodulated AM - level	AM	1053 KHz, 1 mV 1 KHz, 30% AM	Ψ	▭	IC 7201 PIN 12	350 +/- 100 mV
Demodulated FM - level	FM	93,0 MHz, 1 mV △ f = 22,5 KHz f mod = 1 KHz 93,0 MHz, 1 mV △ f = 6,75 KHz f mod = 19 KHz 93,0 MHz, 1 mV △ f = 3,75 KHz f mod = 57 KHz	Ψ	▭	FM 1008 PIN 2	160 mV 45 mV 20 mV
FM mute S/N	FM	93,0 MHz, 1 mV △ f = 22,5 KHz f mod = 1 KHz 93,0 MHz, 1 mV △ f = 22,5 KHz without modulation	Ψ	▭ ◢	Connectorblock Section B PIN 3 + PIN 5	600 - 800 mV => Referencelevel (dB) Referencelevel - 24 dB
Tel. mute	FM	93,0 MHz, 1 mV △ f = 22,5 KHz f mod = 1 KHz Connectorblock Section A: connect PIN 2 to GND	Ψ	▭ ◢	Connectorblock Section B PIN 3 + PIN 5	600 - 800 mV => Referencelevel (dB) Referencelevel - 40 dB
Wide band AGC switch	AM	1053 KHz, 10 mV without modulation 1053 KHz, 2,0 V without modulation	Ψ	▭	IC 7201 PIN 1	V1 ~ 6,5 V V2 ~ 7,0 V (V2 - V1 > 0,5 V)
FM - search - sensitivity	FM FM	94,1 MHz, 8 µV △ f = 22,5 KHz f mod = 1 KHz 94,1 MHz, 80 µV △ f = 22,5 KHz f mod = 1 KHz	Ψ	DX - Search tuning LO - Search tuning		t start/stop < 20 sec.
AM - search- sensitivity	AM AM	1053 KHz, 20 µV without modulation 1053 KHz, 200 µV without modulation	Ψ	DX - Search tuning LO - Search tuning		t start/stop < 15 sec.

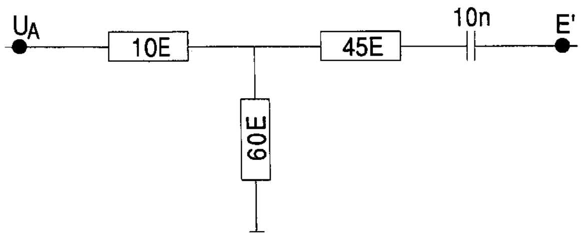
Adjustments 22DC588

Adjustment	**Band**	∿	◇→●	⌀	◇●→	⊙
α - 3 dB	FM	94,1 MHz, 1 mV △ f = 22,5 KHz f mod = 1 KHz	Ψ	◢	Connectorblock Section B PIN 3 + PIN 5	600 - 800 mV => Referencelevel (dB)
	FM	94,1 MHz, 5 µV △ f = 22,5 KHz f mod = 1 KHz		R 3105	Connectorblock Section B PIN 3 + PIN 5	Referencelevel - 3 dB
SDS Channel - separation	FM	94,1 MHz, 63 µV △ f = 22,5 KHz f mod = 1 KHz (right channel only) Stereo-Pilot 10%	Ψ	R 3630	Connectorblock Section B PIN 3 <-> PIN 5	5 dB (+/- 1 dB)
Channel - separation maximum	FM	94,1 MHz, 4 mV △ f = 22,5 KHz f mod = 1 KHz (right channel only) Stereo-Pilot 10%	Ψ	R 3608	Connectorblock Section B PIN 3 <-> PIN 5	> 34 dB
Noise - detector	FM	94,1 MHz, 1 mV △ f = 75 KHz f mod = 40 KHz	Ψ	R 3426	Testmode (push FF more than 5 sec.)	third figure of subline=3
Dolby level	CC	SBC 419 200 nWb / m 400 Hz	normal + reverse	R 3514 (right) R 3504 (left)	IC 7535 PIN 3 (right) PIN 14 (left)	450 mV

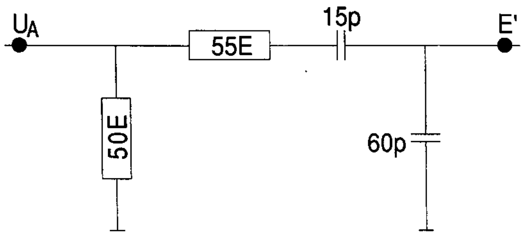
Do not adjust coils 5210 and 5228 (AM-PART), because they are correctly preadjusted by supplier !

For all checks and alignments use VW Dummy-aerials:

FM - Ri: 75 Ohm / 6 dB E' (µV) = U_A(µV)



AM - Ri: 50 Ohm / 20 dB E' (µV) = 0,2 x U_A(µV)

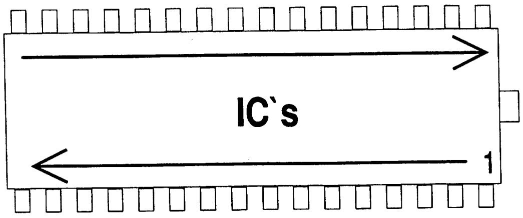


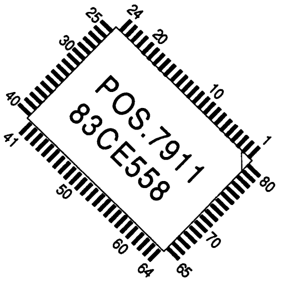
! NOTE

FM- and AM- search sensitivities are only adjustable with a special equipment via software. If you get sets with search sensitivities out of specification, send them to factory-service in Wetzlar until further notice.

Philips Apparatefabrik Wetzlar
Department SP-CS
Philipsstrasse 1
D - 35576 Wetzlar
GERMANY

PIN - ALLOCATIONS
Views from chip side (bottom)




POS.7911
83CE558
1
10
20
24
25
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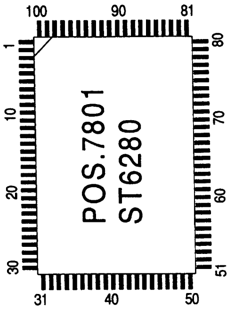
40
41
50
60
64
65
70
80


POS.7801
ST6280
100
90
81
1
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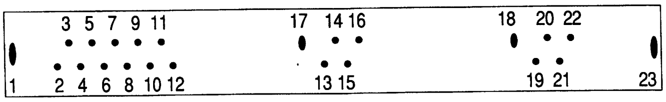
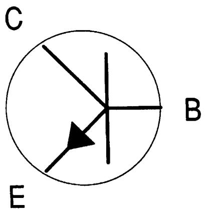
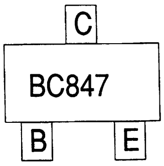
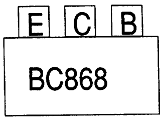
30
31
40
50
51
60
70
80

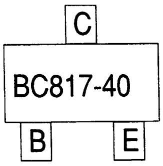
POS.1008 FM-MODUL

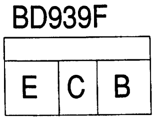

3 5 7 9 11
17 14 16
18 20 22
1
2 4 6 8 10 12
13 15
19 21
23

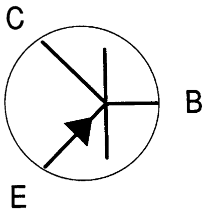


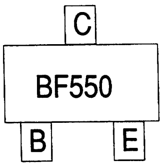


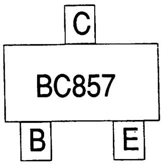


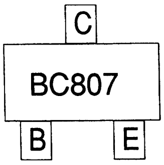

C
BC817-40
B
E

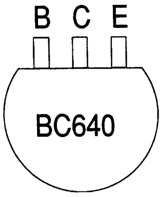


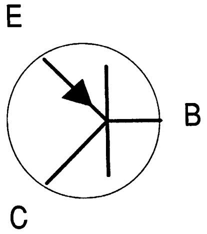


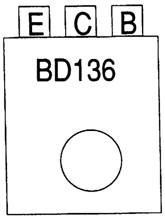


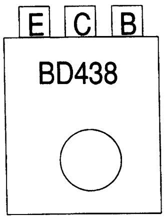


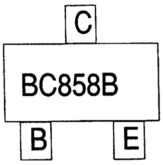


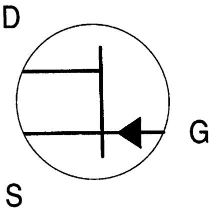


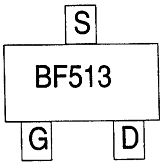


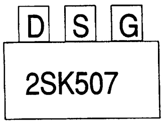


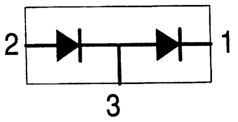


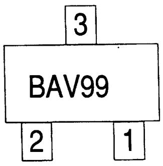


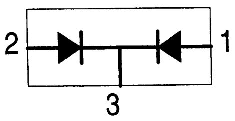


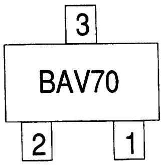












FRONT PWB'S

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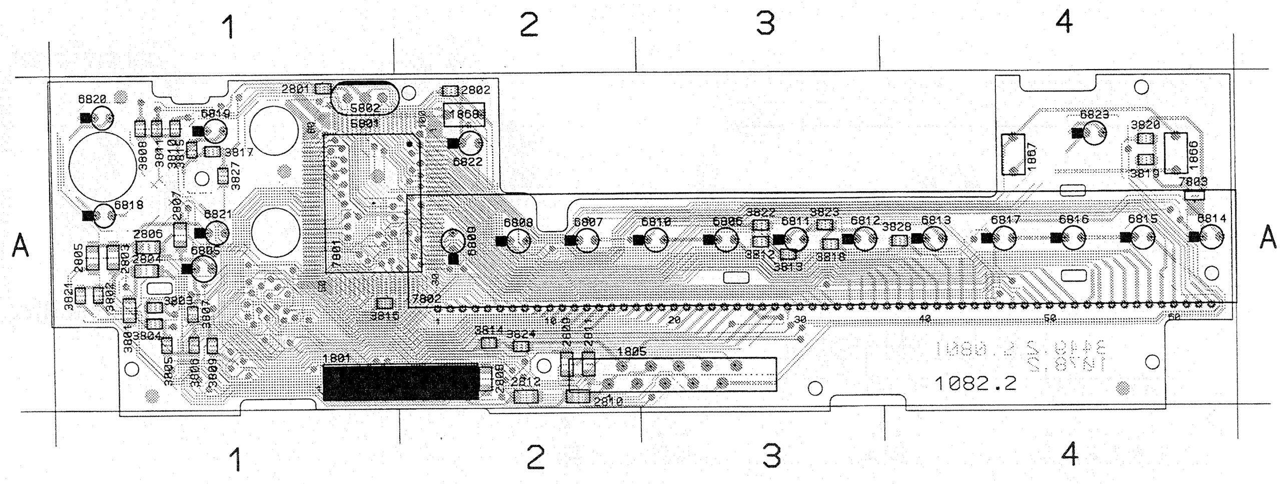
1805 A 2	2802 A 2	2807 A 1	2812 A 2	3805 A 1	3810 A 1	3815 A 1	3820 A 4	3827 A 1	6806 A 3	6811 A 3	6816 A 4	6821 A 1	7803 A 4
1866 A 4	2803 A 1	2808 A 2	3801 A 1	3806 A 1	3811 A 1	3816 A 1	3821 A 1	3828 A 4	6807 A 2	6812 A 3	6817 A 4	6822 A 2	
1867 A 4	2804 A 1	2809 A 2	3802 A 1	3807 A 1	3812 A 3	3817 A 1	3822 A 3	5801 A 1	6808 A 2	6813 A 4	6818 A 1	6823 A 4	
1868 A 2	2805 A 1	2810 A 2	3803 A 1	3808 A 1	3813 A 3	3818 A 3	3823 A 3	5802 A 1	6809 A 2	6814 A 4	6819 A 1	7801 A 1	


1
2
3
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A
A
6820
6819
2801
5802
5801
2802
1868
6822
3808
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3815
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3827
6818
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2803
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6805
7801
6800
6808
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7802
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3824
2808
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1805
1801
2812
2810
6823
3820
1867
1866
3819
7803
1082.2
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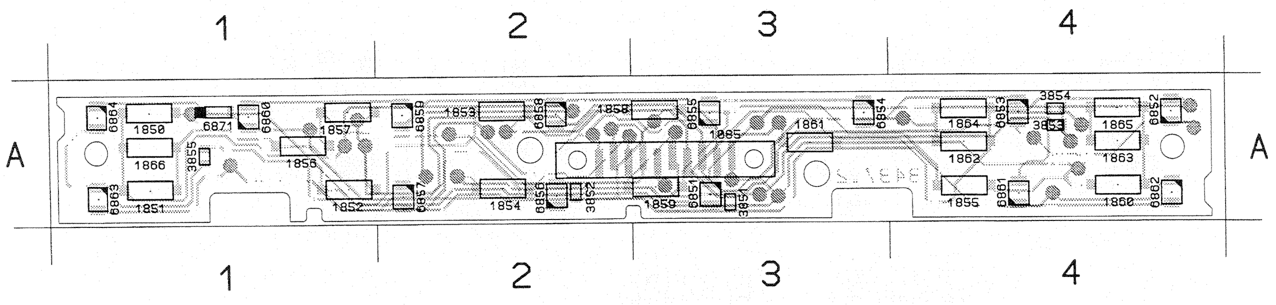
LCD PWB

1085 A 2	1852 A 1	1855 A 4	1858 A 3	1861 A 3	1864 A 4	3851 A 3	3854 A 4	6852 A 4	6855 A 3	6858 A 2	6861 A 4	6864 A 1
1850 A 1	1853 A 2	1856 A 1	1859 A 3	1862 A 4	1865 A 4	3852 A 2	3855 A 1	6853 A 4	6856 A 2	6859 A 2	6862 A 4	6871 A 1
1851 A 1	1854 A 2	1857 A 1	1860 A 4	1863 A 4	1866 A 1	3853 A 4	6851 A 3	6854 A 3	6857 A 2	6860 A 1	6863 A 1	


1
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A
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6864
1850
6871
6860
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6852
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6857
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6856
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6851
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6861
1860
6862

SWITCH PWB

Pos.7801 ST62E80
1 - 17: 3,8 V (LCD-DATA)
18: NC
19: GND
20: 0,0...5,0 V (VOLDEP.)
21: 0,0...5,0 V (BASSDEP.)
22: 0,0...5,0 V (TREBDEP.)
23: 0,0...5,0 V (GALADEP.)
24: 0,0...5,0 V (FADDEP.)
25, 26: 0,0 V (KEYMATRIX)
27: GND
28: 2,3 V (OSZ)
29: 1,8 V (OSZ)
30: 5,0 V (F-RESET)
31 - 33: 0,0 V (KEYMATRIX)
34 - 36: 5,0 V (KEYMATRIX)
37, 38: 5,0 V
39: GND
40: 5,0 V
41: GND
42: 10,0 V (8,5 V SHARPDISPL.)
43: 6,0 V
44: 4,5 V
45: 3,0 V
46: 1,5 V
47, 48: 5,0 V (SDA)
49: 5,0 V (SCL)
50: 5,0 V (MRQ)
51 - 54: NC
55 - 100: 3,8 V (LCD-DATA)

Pos. 7803 BC847
B: 0,6 V / 0,8 V (EXT.ILL.)
C: 0,0 V / 0,6 V (EXT.ILL.)
E: GND

Pos.7913 BC847
B: 0,0 V / 5,0 V (IGN.OFF)
C: 5,0 V
E: 0,0 V / 4,3 V (IGN.OFF)

Pos.7914 BC847
B: 0,6 V / 0,0 V (IGN. OFF)
C: 0,0 V / 5,0 V (IGN. OFF)
E: GND

Pos. 7924 BC847
B: 5,0 V
C: 5,0 V
E: GND

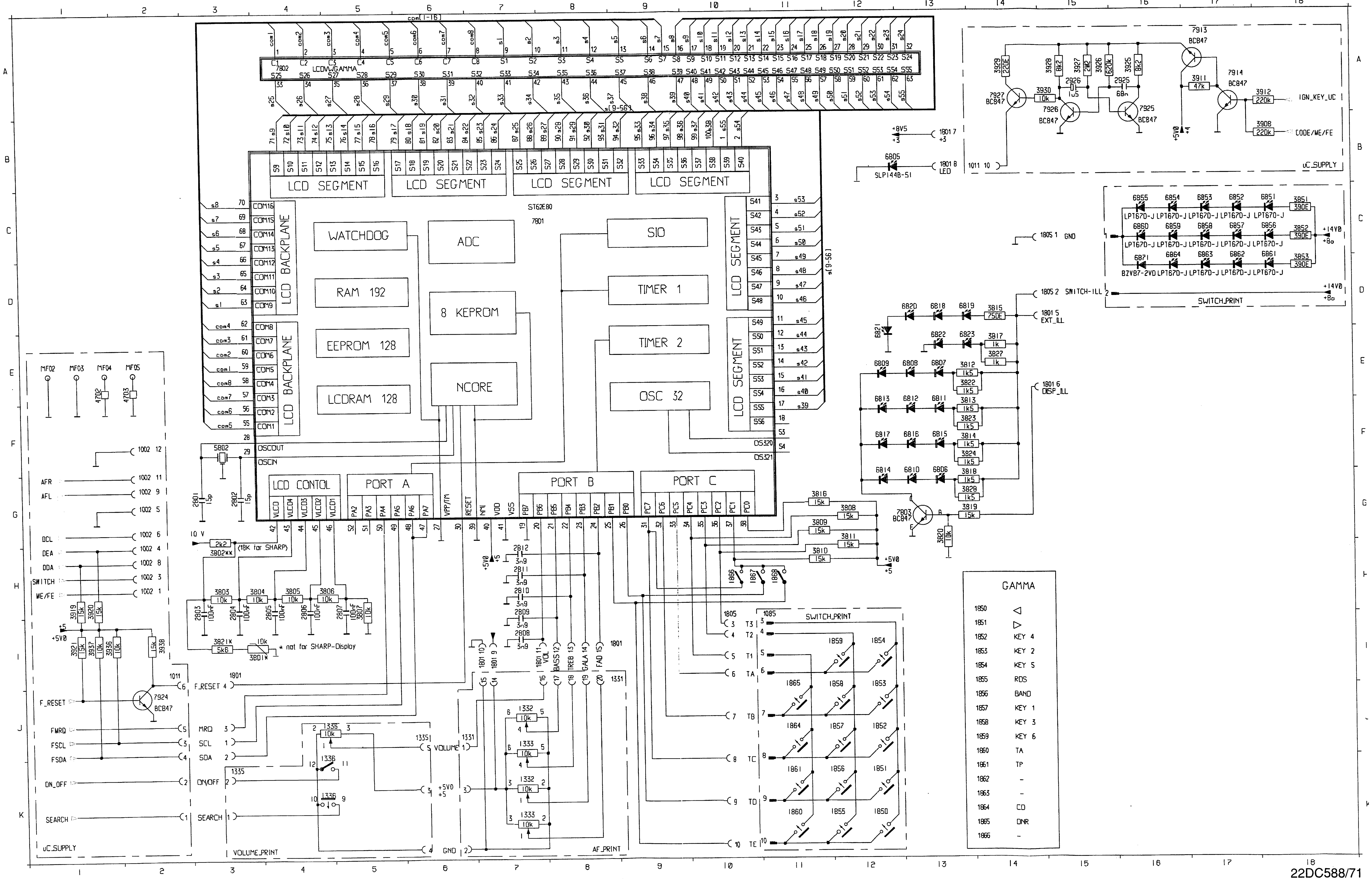
Pos.7925 BC847
B: 0,0 V / BLINKLED (IGN.OFF)
C: 0,0 V / BLINKLED (IGN.OFF)
E: GND

Pos.7926 BC847
B: 0,0 V / BLINKLED (IGN.OFF)
C: 0,0 V / BLINKLED (IGN.OFF)
E: GND

Pos.7927 BC847
B: 0,0 V / BLINKLED (IGN.OFF)
C: 0,0 V / 4,3 V (IGN.OFF)
E: 0,0 V / V_BLINKLED (IGN.OFF)

LCD / SWITCHES / ILLUMINATION / AF / VOL. / uC SUPPLY

1002	H 2
1002	H 2
1002	H 2
1002	G 2
1002	G 2
1002	H 2
1002	G 2
1002	G 2
1002	F 2
1011	B14
1332	K 7
1332	J 7
1333	K 7
1333	J 7
1336	J 4
1336	K 4
1336	K 4
1801	D14
1801	E14
1801	B13
1801	B13
1801	I 7
1801	I 7
1805	C14
1805	D14
1850	K12
1851	K12
1852	J12
1853	J12
1854	I12
1855	K12
1856	K12
1857	J12
1858	J12
1859	I12
1860	K11
1861	K11
1864	J11
1865	J11
1866	H10
1867	H10
1868	H11
2801	G 3
2802	G 3
2803	H 3
2804	H 3
2805	H 4
2806	H 4
2807	H 5
2808	I 7
2809	H 7
2810	H 7
2811	H 7
2812	H 7
2925	A16
2926	A15
3801*	I 3
3802*	H 3
3803	H 3
3804	H 3
3805	H 4
3806	H 4
3807	H 5
3808	G12
3809	G11
3810	H11
3811	G12
3812	E13
3813	F13
3814	F13
3815	D14
3816	G11
3817	E14
3818	G13
3819	G13
3820	G13
3821*	I 3
3822	E13
3823	F13
3824	F13
3827	E14
3828	G13
3851	C18
3852	C18
3853	D18
3908	B18
3911	A17
3912	A18
3919	H 1
3920	H 1
3921	I 1
3925	A16
3926	A15
3927	A15
3928	A15
3929	A14
3930	A15
3936	I 1
3937	I 1
3938	I 2
4702	E 1
4703	E 2
5802	F 3
6805	B12
6806	G13
6807	E13
6808	E13
6809	E12
6810	G13
6811	F13
6812	F13
6813	F12
6814	G12
6815	F13
6816	F13
6817	F12
6818	D13
6819	D13
6820	D13
6821	E12
6822	E13
6823	E13
6851	C18
6852	C17
6853	C17
6854	C16
6855	C16
6856	C18
6857	C17
6858	C17
6859	C16
6860	C16
6861	D18
6862	D17
6863	D17
6864	D16
6871	D16
7801	C 7
7802	A 4
7803	G13
7913	A17
7914	A17
7924	J 2
7925	A16
7926	A15
7927	A14
MF02	E 1
MF03	E 1
MF04	E 1
MF05	E 2



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18
A
B
C
D
E
F
G
H
I
J
K
com(1-16)
7802
LCDVL/GAMMA
s(9-56)
ST62E80
7801
LCD SEGMENT
LCD BACKPLANE
WATCHDOG
ADC
SIO
RAM 192
TIMER 1
8 KEPROM
EEPROM 128
TIMER 2
LCDRAM 128
NCORE
OSC 32
OSCOUT
OSCIN
LCD CONTOL
PORT A
PORT B
PORT C
VPP/TM
RESET
NMI
VDD
VSS
5802
2801 15p
2802 15p
10 V
2k2
3802**
(18K for SHARP)
3803 10k
3804 10k
3805 10k
3806 10k
2803 100nF
2804 100nF
2805 100nF
2806 100nF
2807 100nF
3807 10k
3821* 5k6
3801* 10k
* not for SHARP-Display
2812 3n9
2811 3n9
2810 3n9
2809 3n9
2808 3n9
+5V0 +5
MF02
MF03
MF04
MF05
4702
4703
1002
AFR
AFL
DCL
DEA
DDA
SWITCH
ME/FE
3919 15k
3920 15k
3921 10k
3937 15k
3936 10k
3938 15k
+5V0
7924 BC847
F_RESET
FMRD
FSCL
FSDA
ON_OFF
SEARCH
uC_SUPPLY
1011
1801
F_RESET 4
MRD 3
SCL 1
SDA 2
ON/OFF 2
SEARCH 1
1335
1336
VOLUME_PRINT
1335 10k
1336
1331
VOLUME 1
+5V0 +5
GND 2
1801 10
1801 9
1801 11 VOL.
BASS 12
TREB 13
GALA 14
FAD 15
1332 10k
1333 10k
AF_PRINT
1866
1867
1868
1805
1085
SWITCH_PRINT
T3
T2
T1
TA
TB
TC
TD
TE
1859
1854
1865
1858
1853
1864
1857
1852
1861
1856
1851
1860
1855
1850
3816 15k
3908 15k
3809 15k
3811 15k
3810 15k
+5V0 +5
7803 BC847
3919 15k
3820 10k
6820
6818
6819
3815 750E
6821
6822
6823
3817 1k
3827 1k
6809
6808
6807
3812 1k5
3822 1k5
6813
6812
6811
3813 1k5
3823 1k5
6817
6816
6815
3814 1k5
3824 1k5
6814
6810
6806
3818 1k5
3828 1k5
1805 2 SWITCH-ILL
1801 5 EXT_ILL
1801 6 DISP_ILL
1805 1 GND
6805
SLP144B-51
1801 8 LED
1801 7 +3
+8V5 +3
6855
6854
6853
6852
6851
3851 390E
LPT670-J
6860
6859
6858
6857
6856
3852 390E
6871
6864
6863
6862
6861
3853 390E
BZV87-2V0
+14V0 +8a
SWITCH_PRINT
7913 BC847
3929 220E
3928 8k2
3927 2M2
3926 620k
3925 8k2
2926 1u5
2925 68n
7927 BC847
3930 10k
7926 BC847
7925 BC847
3911 47k
7914 BC847
3912 220k
IGN_KEY_UC
3908 220k
CODE/ME/FE
+5V0 +4
1011 10
uC_SUPPLY

GAMMA

1850	◁
1851	▷
1852	KEY 4
1853	KEY 2
1854	KEY 5
1855	RDS
1856	BAND
1857	KEY 1
1858	KEY 3
1859	KEY 6
1860	TA
1861	TP
1862	-
1863	-
1864	CD
1865	DNR
1866	-

22DC588/71

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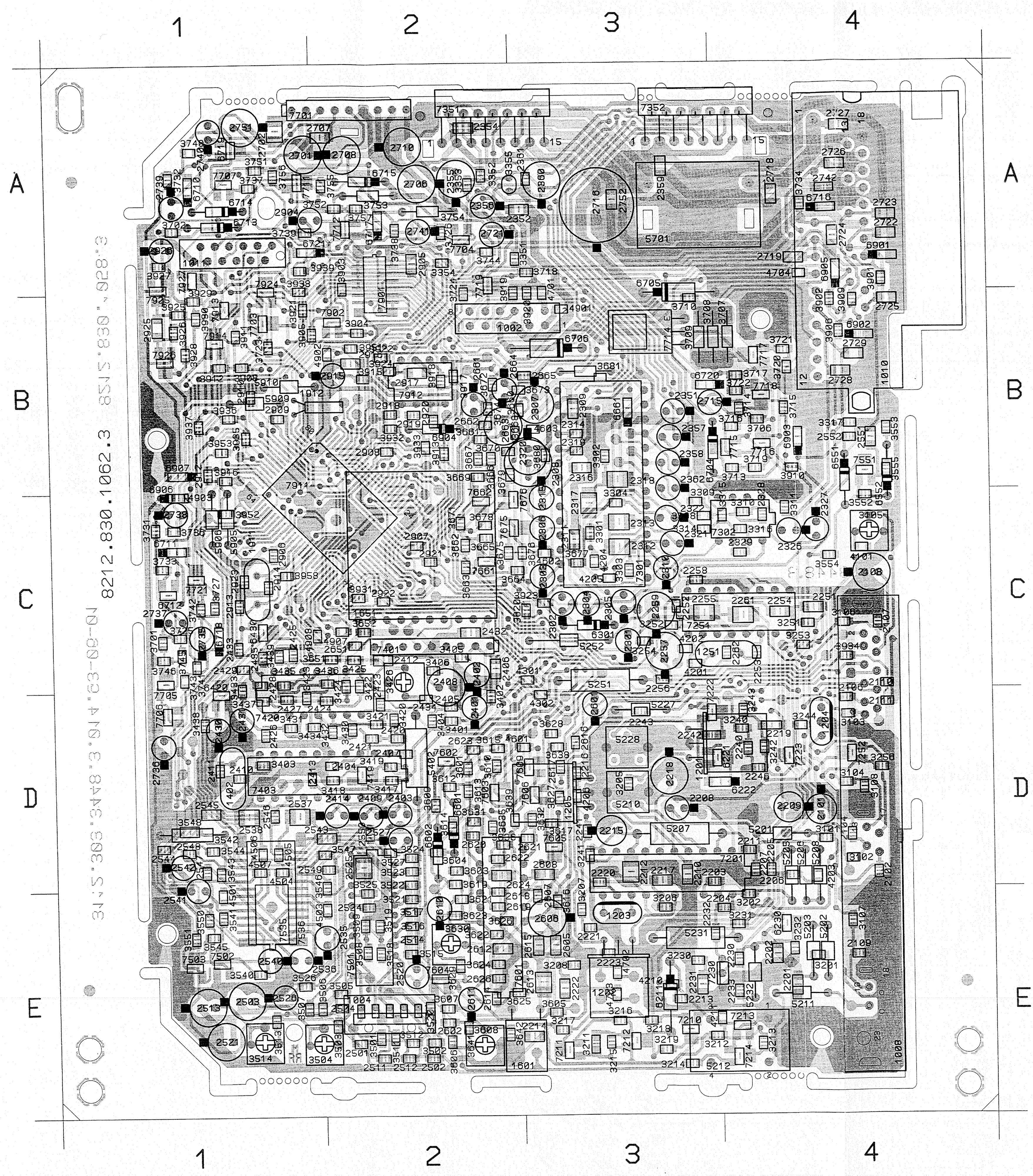

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1004 E 2	2311 C 3	2543 D 2	2915 B 2	3425 C 2	3628 D 3	3756 A 1	5210 D 3	7606 D 3
1008 D 4	2312 C 3	2544 D 1	2916 B 2	3426 C 2	3629 E 2	3757 A 2	5211 E 4	7609 D 3
1010 A 4	2313 C 3	2545 D 1	2917 B 2	3430 D 2	3630 E 2	3901 A 4	5212 E 4	7661 C 2
1011 A 1	2314 B 3	2546 D 1	2918 B 2	3431 D 1	3631 D 2	3902 B 4	5227 D 3	7662 C 2
1201 D 3	2315 C 3	2547 D 1	2919 B 2	3432 D 2	3632 D 3	3903 A 2	5228 D 3	7675 C 2
1202 E 3	2316 B 3	2548 D 1	2920 B 2	3433 C 1	3635 D 2	3904 B 2	5231 E 3	7676 C 2
1203 E 3	2317 C 3	2549 D 2	2921 C 2	3434 D 1	3636 D 2	3905 B 1	5232 E 4	7701 A 2
1204 D 4	2318 B 3	2550 D 2	2922 C 2	3435 C 1	3638 D 3	3906 B 4	5251 C 3	7703 B 1
1205 D 3	2319 B 3	2551 B 4	2923 C 1	3436 C 2	3639 D 2	3908 B 1	5252 C 3	7704 A 2
1251 C 4	2320 B 3	2552 B 4	2925 B 1	3437 D 1	3641 E 2	3909 B 4	5402 D 2	7705 C 1
1402 D 1	2321 C 3	2601 D 3	2926 A 1	3438 D 1	3642 E 2	3910 B 4	5701 A 3	7706 D 1
1601 E 3	2322 C 3	2602 E 2	3101 D 4	3439 C 1	3651 C 2	3911 B 1	5905 C 1	7707 A 1
1651 C 2	2326 C 4	2605 E 3	3102 D 4	3501 E 2	3652 C 2	3912 B 1	5906 C 1	7711 A 1
1911 C 1	2327 C 4	2606 E 3	3103 D 4	3502 E 2	3660 B 3	3913 B 2	5909 B 1	7712 A 2
1912 B 1	2328 C 4	2607 E 3	3104 D 4	3503 E 2	3661 B 2	3915 B 2	5910 B 1	7714 B 3
2101 D 4	2329 C 4	2608 D 3	3105 C 4	3504 E 1	3662 C 2	3916 B 1	6211 E 3	7715 B 4
2102 D 4	2351 B 3	2610 E 2	3106 C 4	3505 E 2	3663 C 2	3917 B 2	6221 D 3	7716 B 4
2104 D 4	2352 A 3	2611 E 2	3107 E 4	3506 E 1	3664 C 3	3918 B 2	6222 D 4	7717 B 4
2106 D 4	2354 A 2	2612 E 2	3108 D 4	3507 E 1	3665 C 2	3919 B 3	6230 E 4	7718 B 4
2107 C 4	2355 A 2	2613 E 3	3201 E 4	3508 E 2	3666 B 2	3920 B 3	6301 C 3	7719 A 2
2108 C 4	2356 A 2	2614 E 2	3202 E 4	3509 E 2	3667 B 2	3921 B 1	6420 D 1	7721 C 1
2109 E 4	2357 B 3	2615 E 3	3205 D 3	3511 E 2	3668 B 3	3922 B 2	6430 C 1	7901 A 2
2110 C 4	2358 B 3	2616 D 3	3206 E 3	3512 E 2	3669 B 2	3923 C 3	6551 B 4	7902 B 2
2111 D 4	2359 A 3	2617 D 3	3207 E 3	3513 E 1	3670 B 2	3924 B 2	6552 B 4	7911 C 2
2201 E 4	2360 A 3	2618 E 2	3208 E 3	3514 E 1	3671 C 2	3925 B 1	6601 D 2	7912 B 2
2202 E 4	2361 A 3	2619 E 2	3211 E 3	3515 E 2	3672 B 2	3926 B 1	6602 D 2	7913 B 1
2203 D 3	2362 B 3	2620 D 2	3212 E 3	3516 E 2	3673 B 3	3927 A 1	6661 B 3	7914 B 1
2204 E 4	2401 D 2	2621 D 3	3213 E 4	3517 E 2	3674 B 2	3928 B 1	6704 B 3	7924 A 1
2205 D 4	2402 C 2	2622 D 2	3214 E 3	3518 E 2	3675 C 2	3929 B 1	6705 B 3	7925 A 1
2206 D 4	2403 D 2	2623 D 2	3215 E 3	3519 E 2	3676 C 3	3930 B 1	6706 B 3	7926 B 1
2207 D 4	2404 D 2	2624 D 2	3216 E 3	3520 E 2	3677 C 3	3931 C 2	6710 A 1	7927 A 1
2208 D 3	2405 D 2	2626 E 2	3217 E 3	3521 E 2	3678 C 2	3932 B 2	6711 C 1	
2209 D 4	2406 C 2	2651 C 2	3218 E 3	3522 D 2	3679 B 2	3933 B 2	6712 C 1	
2210 D 3	2407 D 2	2661 B 2	3219 E 3	3523 D 2	3680 B 3	3934 C 4	6713 A 1	
2211 D 4	2408 C 2	2662 B 2	3230 E 3	3524 D 2	3681 B 3	3935 B 1	6714 A 1	
2212 D 3	2409 D 2	2663 B 2	3231 E 4	3525 E 2	3701 C 1	3936 B 1	6715 A 2	
2213 E 3	2410 D 1	2664 B 2	3232 E 4	3526 E 1	3702 A 1	3937 B 1	6716 A 4	
2214 E 3	2411 D 1	2665 B 3	3240 D 4	3527 D 2	3706 B 4	3938 A 1	6717 A 2	
2215 D 3	2412 C 2	2701 A 1	3241 D 3	3540 E 1	3707 B 4	3951 B 2	6718 C 1	
2216 D 3	2413 D 1	2702 A 1	3242 D 4	3541 E 1	3708 B 4	3952 C 1	6719 A 1	
2217 D 3	2414 D 2	2706 A 2	3243 D 4	3542 D 1	3709 B 3	3953 B 1	6720 B 3	
2218 D 3	2420 D 2	2707 A 2	3244 D 4	3543 D 1	3710 B 3	3958 C 1	6721 A 1	
2219 D 4	2421 D 2	2708 A 2	3251 C 4	3544 D 1	3713 B 4	4101 C 4	6901 A 4	
2220 D 3	2423 D 2	2710 A 2	3252 C 3	3545 E 1	3714 B 4	4201 C 3	6902 B 4	
2221 E 3	2424 D 2	2715 B 3	3253 C 4	3546 D 2	3715 B 4	4202 C 3	6903 B 4	
2222 E 3	2425 C 1	2716 A 3	3256 D 4	3547 D 2	3716 B 4	4203 D 4	6904 B 2	
2223 E 3	2426 D 1	2718 A 4	3301 C 3	3548 D 1	3717 B 4	4204 C 3	6905 A 4	
2230 E 4	2427 D 1	2719 A 4	3302 B 3	3550 E 1	3718 A 3	4205 C 3	7201 D 3	
2231 E 3	2428 C 1	2721 A 2	3303 C 3	3551 E 1	3719 B 4	4206 D 3	7210 E 3	
2232 E 3	2429 C 1	2722 A 4	3304 C 3	3552 C 4	3720 B 4	4210 E 3	7211 E 3	
2233 E 4	2430 D 1	2723 A 4	3308 C 3	3553 B 4	3721 B 4	4211 E 3	7212 E 3	
2240 D 4	2431 D 1	2724 A 4	3309 C 3	3554 C 4	3722 B 4	4301 C 3	7213 E 4	
2241 D 3	2432 C 2	2725 B 4	3310 C 4	3555 B 4	3723 B 1	4302 D 3	7214 E 4	
2242 D 3	2433 C 1	2726 A 4	3311 C 4	3601 D 2	3724 B 2	4501 E 1	7222 D 3	
2243 D 3	2434 D 2	2727 A 4	3314 C 3	3603 D 2	3725 C 1	4503 E 2	7223 D 4	
2246 D 4	2435 C 1	2728 B 4	3315 C 4	3604 D 2	3726 A 2	4504 D 1	7230 E 3	
2251 C 4	2501 E 2	2729 B 4	3316 C 4	3605 E 3	3727 C 1	4505 D 1	7251 C 4	
2252 C 3	2502 E 2	2735 C 1	3317 B 4	3606 E 2	3731 C 1	4506 D 1	7252 D 4	
2253 C 4	2503 E 1	2736 D 1	3351 A 3	3607 E 2	3732 A 1	4507 D 1	7301 B 3	
2254 C 4	2504 E 2	2737 C 1	3352 A 2	3608 E 2	3733 C 1	4601 D 3	7302 C 4	
2255 C 3	2511 E 2	2738 C 1	3353 A 2	3609 D 2	3734 A 4	4602 C 3	7351 A 2	
2256 C 3	2512 E 2	2739 A 1	3354 A 2	3610 D 2	3736 C 1	4603 B 3	7352 A 3	
2257 C 3	2513 E 1	2740 A 1	3355 A 2	3612 D 2	3737 A 1	4701 B 3	7401 C 2	
2258 C 3	2514 E 2	2741 A 2	3401 D 2	3613 D 2	3738 A 2	4702 E 3	7403 D 2	
2259 C 3	2520 E 2	2742 A 4	3402 D 2	3614 D 2	3739 A 1	4703 E 3	7419 D 2	
2261 C 4	2521 E 1	2751 A 1	3403 D 1	3615 D 2	3740 A 1	4704 A 4	7420 D 1	
2262 C 4	2524 E 2	2752 A 3	3404 D 2	3616 E 3	3741 C 1	4901 B 3	7501 E 2	
2301 C 3	2525 D 2	2904 A 1	3405 C 2	3617 D 3	3742 C 1	4902 B 2	7502 E 1	
2302 C 3	2526 E 1	2905 A 2	3406 C 2	3619 D 2	3743 C 1	4907 C 2	7503 E 1	
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2305 C 3	2536 E 1	2908 B 2	3419 D 2	3622 E 2	3746 C 1	5202 E 4	7551 B 4	
2306 C 3	2537 D 1	2909 B 1	3420 D 2	3623 E 2	3751 A 1	5203 E 4	7601 E 2	
2307 B 3	2538 D 1	2910 B 1	3421 D 2	3624 E 2	3752 A 2	5205 D 4	7602 D 2	
2308 B 3	2540 E 1	2912 B 1	3422 C 2	3625 E 2	3753 A 2	5206 D 4	7603 D 2	
2309 B 3	2541 D 1	2913 C 1	3423 D 1	3626 E 2	3754 A 2	5207 D 3	7604 E 2	

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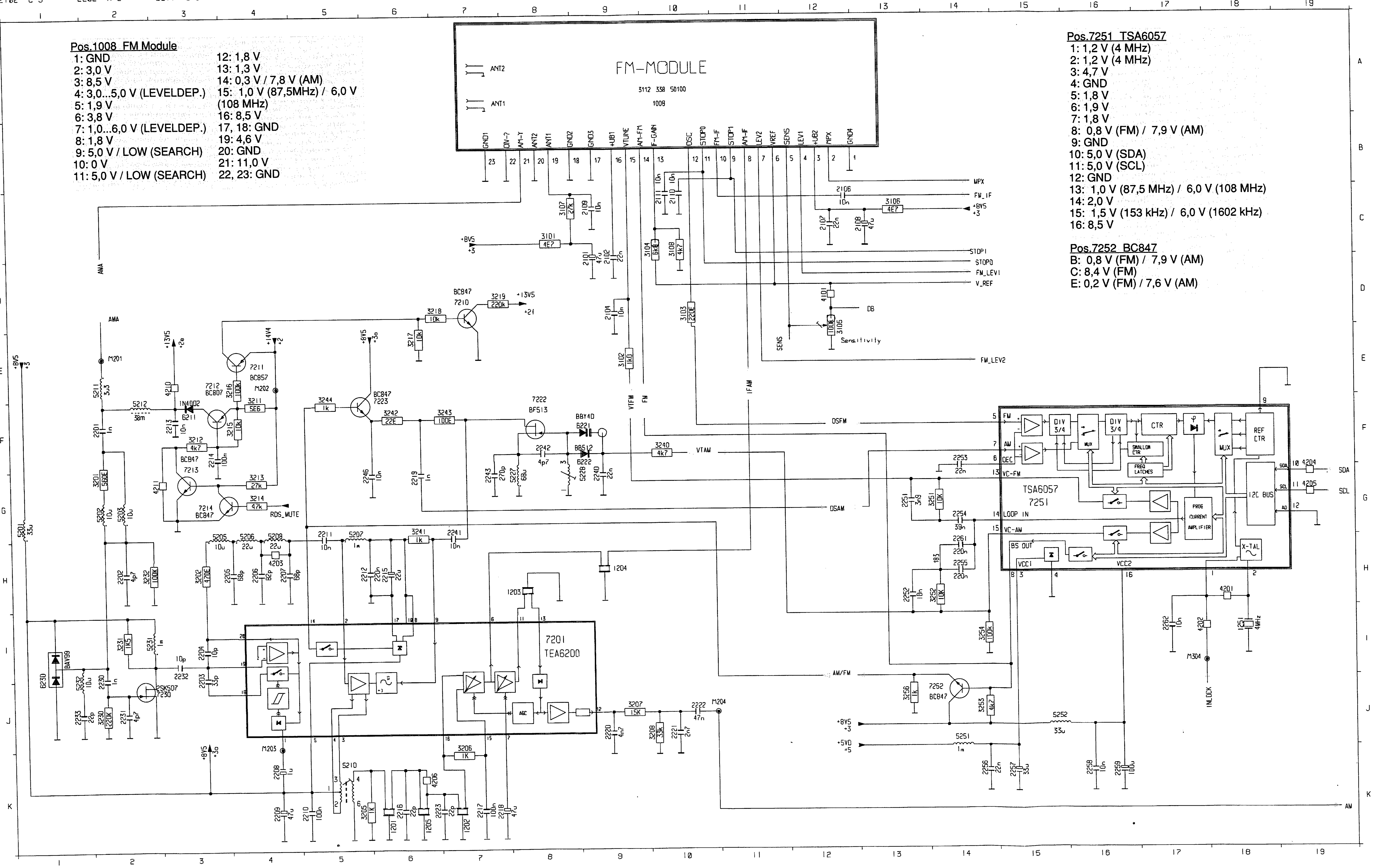
FM MODUL / AM PART / PLL SYNTHESIZER

1008	A10
1201	K 6
1202	K 7
1203	H 7
1204	H 9
1205	K 6
1251	I18
2101	C 9
2102	C 9
2104	D 9
2106	C12
2107	C12
2108	C13
2109	C 9
2110	C10
2111	C10
2201	F 2
2202	H 2
2203	I 3
2204	I 3
2205	H 4
2206	H 4
2207	H 4
2208	K 4
2209	K 4
2210	K 5
2211	G 5
2212	H 5
2213	F 3
2214	F 3
2215	H 6
2216	K 6
2217	K 7
2218	K 7
2219	G 6
2220	J 9
2221	J10
2222	J10
2223	K 6
2230	I 2
2231	J 2
2232	I 3
2233	J 1
2240	G 9
2241	G 7
2242	F 8
2243	G 7
2246	G 6
2251	G13
2252	H13
2253	F14
2254	G14
2255	H14
2256	K14
2257	K15
2258	K16
2259	K16
2261	H14
2262	I17
3101	C 8
3102	E 9
3103	D10
3104	C10
3105	E12
3106	C13
3107	C 8
3108	C10
3201	G 2
3202	H 3
3205	K 5
3206	K 7
3207	J 9
3208	J10
3211	F 4
3212	F 3
3213	G 4
3214	G 4
3215	F 4
3216	E 4
3217	E 6
3218	D 7
3219	D 7
3230	J 2
3231	I 2
3232	H 2
3240	F10
3241	G 6
3242	F 6
3243	F 7
3244	F 5
3251	G14
3252	H14
3253	J14
3254	I14
3256	J13
4101	D12
4201	H18
4202	I17
4203	H 4
4204	G19
4205	G19
4206	K 6
4210	E 3
4211	G 3
5201	G 1
5202	G 2
5203	G 2
5205	G 3
5206	G 4
5207	G 5
5208	G 4
5210	K 5
5211	E 2
5212	F 2
5227	G 8
5228	F 9
5231	I 2
5232	I 1
5251	J14
5252	J15
6211	F 3
6221	F 9
6222	F 9
6230	J 1
7201	I 8
7210	D 7
7211	E 4
7212	E 3
7213	F 3
7214	G 3
7222	E 8
7223	E 6
7230	J 2
7251	G15
7252	J14
M201	E 2
M202	E 4
M203	J 4
M204	J10
M304	I17


FM-MODULE
3112 338 50100
1008
ANT1
ANT2
GND1
DV-?
AM-Y
GND2
GND3
+UB1
VTUNE
AM-FM
F-GAIN
OSC
STOP0
FM-IF
STOP1
AM-IF
LEV2
VREF
SENS
LEV1
+UB2
MPX
GND4
MPX
FM_IF
+8V5
STOP1
STOP0
FM_LEV1
V_REF
DB
Sensitivity
FM_LEV2
AMA
VTFM
FM
IFAM
OSFM
OSAM
VTAM
AM/FM
AM
RDS_MUTE
BC847 7210
BC857 7211
BC807 7212
BC847 7213
BC847 7214
BF513 7222
BC847 7223
2SK507 7230
BC847 7252
BAV99
1N4002
BBY40
BB512
TEA6200
7201
TSA6057
7251
FM
AM
OSC
VC-FM
LOOP IN
VC-AM
BS OUT
VCC1
VCC2
DIV 3/4
DIV 3/4
MUX
CTR
REF CTR
SMALLOW CTR
FREQ LATCHES
PROG CURRENT AMPLIFIER
I2C BUS
X-TAL
SDA
SCL
AD
INLOCK
4MHz
+13V5
+14V4
+5VD
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
I
J
K

Pos.1008 FM Module
1: GND
2: 3,0 V
3: 8,5 V
4: 3,0...5,0 V (LEVELDEP.)
5: 1,9 V
6: 3,8 V
7: 1,0...6,0 V (LEVELDEP.)
8: 1,8 V
9: 5,0 V / LOW (SEARCH)
10: 0 V
11: 5,0 V / LOW (SEARCH)
12: 1,8 V
13: 1,3 V
14: 0,3 V / 7,8 V (AM)
15: 1,0 V (87,5MHz) / 6,0 V (108 MHz)
16: 8,5 V
17, 18: GND
19: 4,6 V
20: GND
21: 11,0 V
22, 23: GND

Pos.7251 TSA6057
1: 1,2 V (4 MHz)
2: 1,2 V (4 MHz)
3: 4,7 V
4: GND
5: 1,8 V
6: 1,9 V
7: 1,8 V
8: 0,8 V (FM) / 7,9 V (AM)
9: GND
10: 5,0 V (SDA)
11: 5,0 V (SCL)
12: GND
13: 1,0 V (87,5 MHz) / 6,0 V (108 MHz)
14: 2,0 V
15: 1,5 V (153 kHz) / 6,0 V (1602 kHz)
16: 8,5 V

Pos.7252 BC847
B: 0,8 V (FM) / 7,9 V (AM)
C: 8,4 V (FM)
E: 0,2 V (FM) / 7,6 V (AM)

Pos.6230 BAV99
(values in AM-Mode)
1: 8,0 V
2: GND
3: 4,2 V

Pos.7201 TEA6200
(values in AM-Mode)
1: 5,8 V
2: 4,0 V / 0 V (FM)
3 - 5: 8,0 V
6: 7,9 V
7: ca. 1,0 V (LEVELDEP.) / 0,0 V (FM)
8 - 10: 4,0 V / 0,0 V (FM)
11: 6,4 V / 7,6 V (FM)
12: 2,4 V / 0,0 V (FM)
13: 4,6 V / 6,3 V (FM)
14: 7,6 V / 0,2 V (FM)
15, 16: 4,7 V / 0,0 V (FM)
17: GND
18: 3,0 V / 0,0 V (FM)
19: 1,3 V / 0,6 V (FM)
20: 3,3 V / 6,9 V (FM)

Pos.7210 BC847
(values in AM-Mode)
B: 0,0 V
C: 11,6 V
E: GND

Pos.7211 BC857
(values in AM-Mode)
B: 12,0 V
C: 0,0 V
E: 12,0 V

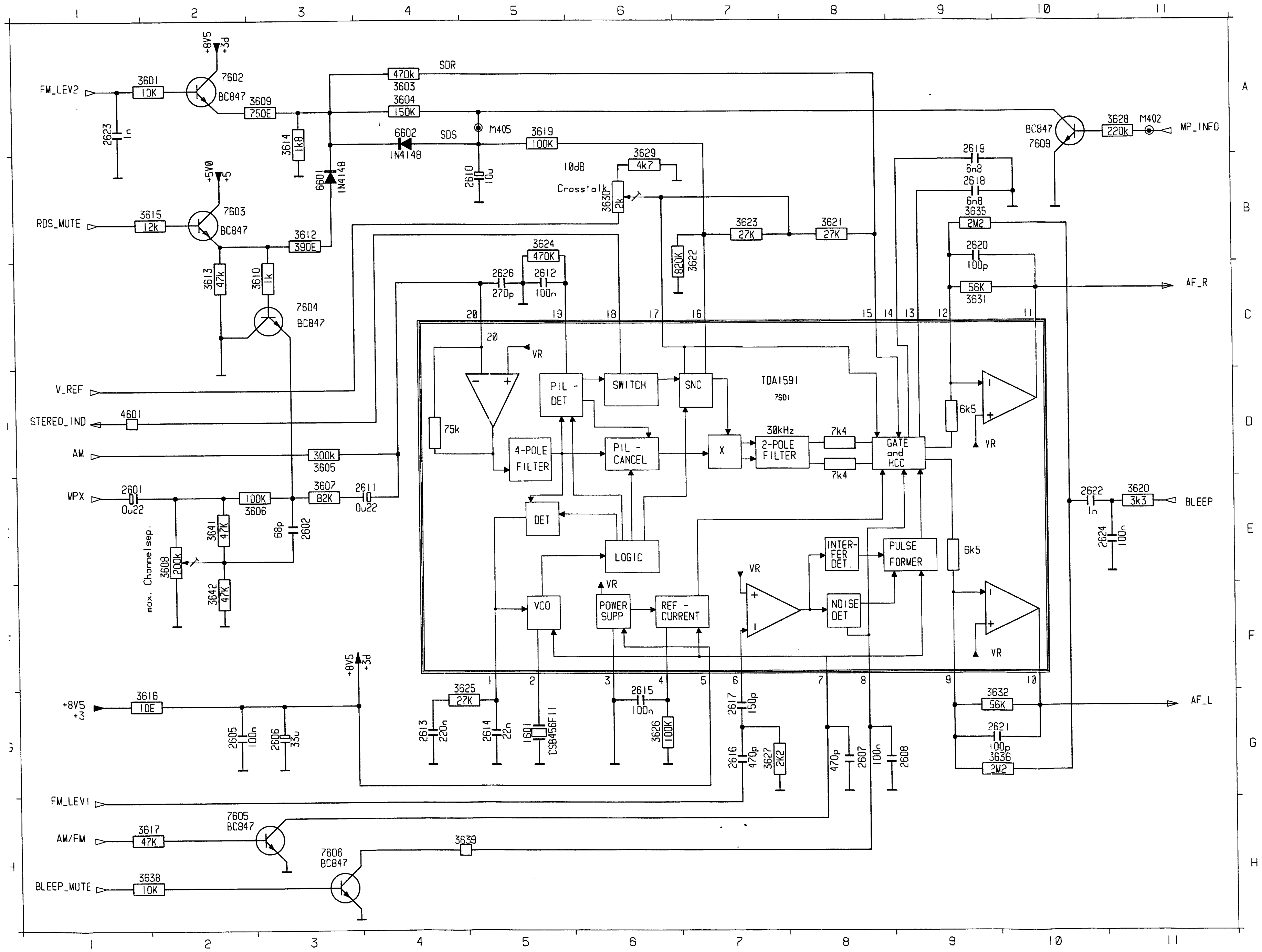
Pos.7212 BC807
(values in AM-Mode)
B: 11,2 V
C: 11,9 V
E: 11,9 V

Pos.7222 BF513
(values in AM-Mode)
D: 5,5 V / 0,0 V (FM)
G: 0,0 V
S: 0,0 V

Pos.7223 BC847
(values in AM-Mode)
B: 6,8 V / 0,0 V (FM)
C: 8,0 V
E: 7,5 V / 0,0 V (FM)

Pos.7230 2SK507
(values in AM-Mode)
D: 7,8 V
G: 0,0 V

STEREO DECODER


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
FM_LEV2
3601
10K
2623
1n
+8V5
+3d
7602
BC847
3609
750E
470k
3603
150K
3604
SDR
3614
1k8
6601
1N4148
6602
1N4148
SDS
M405
3619
100K
2610
10u
10dB
Crosstalk
3630
2k
3629
4k7
+5V0
+5
RDS_MUTE
3615
12k
7603
BC847
3612
390E
3613
47k
3610
1k
7604
BC847
3624
470K
2626
270p
2612
100n
3622
820K
3623
27K
3621
27K
2619
6n8
2618
6n8
3635
2M2
2620
100p
56K
3631
AF_R
BC847
7609
3628
220K
M402
MP_INFO
V_REF
STEREO_IND
4601
AM
300k
3605
MPX
2601
0u22
100K
3606
3607
82K
2611
0u22
3641
47K
3608
200k
max. Channelsep.
3642
47K
68p
2602
TDA1591
7601
20
VR
75k
PIL - DET
SWITCH
SNC
4-POLE FILTER
PIL - CANCEL
X
38kHz
2-POLE FILTER
7k4
7k4
GATE and HCC
6k5
DET
LOGIC
INTER-FER DET.
PULSE FORMER
6k5
VCO
POWER SUPP
REF - CURRENT
NOISE DET
2622
1n
3620
3k3
BLEEP
2624
100n
+8V5
+3d
+8V5
+3
3616
10E
2605
100n
2606
33u
3625
27K
2613
220n
2614
22n
1601
CSB456F11
2615
100n
3626
100K
2617
150p
2616
470p
3627
2K2
470p
2607
100n
2608
3632
56K
2621
100p
3636
2M2
AF_L
FM_LEV1
7605
BC847
3617
47K
AM/FM
3639
7606
BC847
3638
10K
BLEEP_MUTE

1601	G 5	7606	H 3
2601	E 1	7609	A10
2602	E 3	M402	A11
2605	G 2	M405	A 5
2606	G 3		
2607	G 8		
2608	G 9		
2610	B 5		
2611	E 4		
2612	C 5		
2613	G 4		
2614	G 5		
2615	G 6		
2616	G 7		
2617	G 7		
2618	B 9		
2619	A 9		
2620	B 9		
2621	G 9		
2622	E10		
2623	A 1		
2624	E11		
2626	C 5		
3601	A 2		
3603	A 4		
3604	A 4		
3605	D 3		
3606	E 3		
3607	E 3		
3608	E 2		
3609	A 3		
3610	C 3		
3612	B 3		
3613	C 2		
3614	A 3		
3615	B 2		
3616	G 1		
3617	H 1		
3619	A 5		
3620	E11		
3621	B 8		
3622	B 7		
3623	B 7		
3624	B 5		
3625	G 4		
3626	G 6		
3627	G 7		
3628	A11		
3629	B 6		
3630	B 6		
3631	C 9		
3632	G 9		
3635	B 9		
3636	G 9		
3638	H 1		
3639	H 4		
3641	E 2		
3642	F 2		
4601	D 1		
6601	B 3		
6602	A 4		
7601	D 7		
7602	A 2		
7603	B 2		
7604	C 3		
7605	H 2		

Pos.7601 TDA1591
1: 4,6 V
2: 4,3 V
3: GND
4: 3,0 V
5: 8,5 V
6: 2,2 V
7: 2,2 V / 0,0 V (AM)
8: 6,2 V
9 - 14: 3,8 V
15 - 17: 3,0 V
18: 5,0 V / 0,0 V (MONO)
19, 20: 3,0 V

Pos.7602 BC847
B: 1,0...6,0 V (LEVELDEP.)
C: 8,5 V
E: 0,0...5,0 V (LEVELDEP.)

Pos.7603 BC847
B: 0,0 V
C: 5,0 V
E: 0,0 V

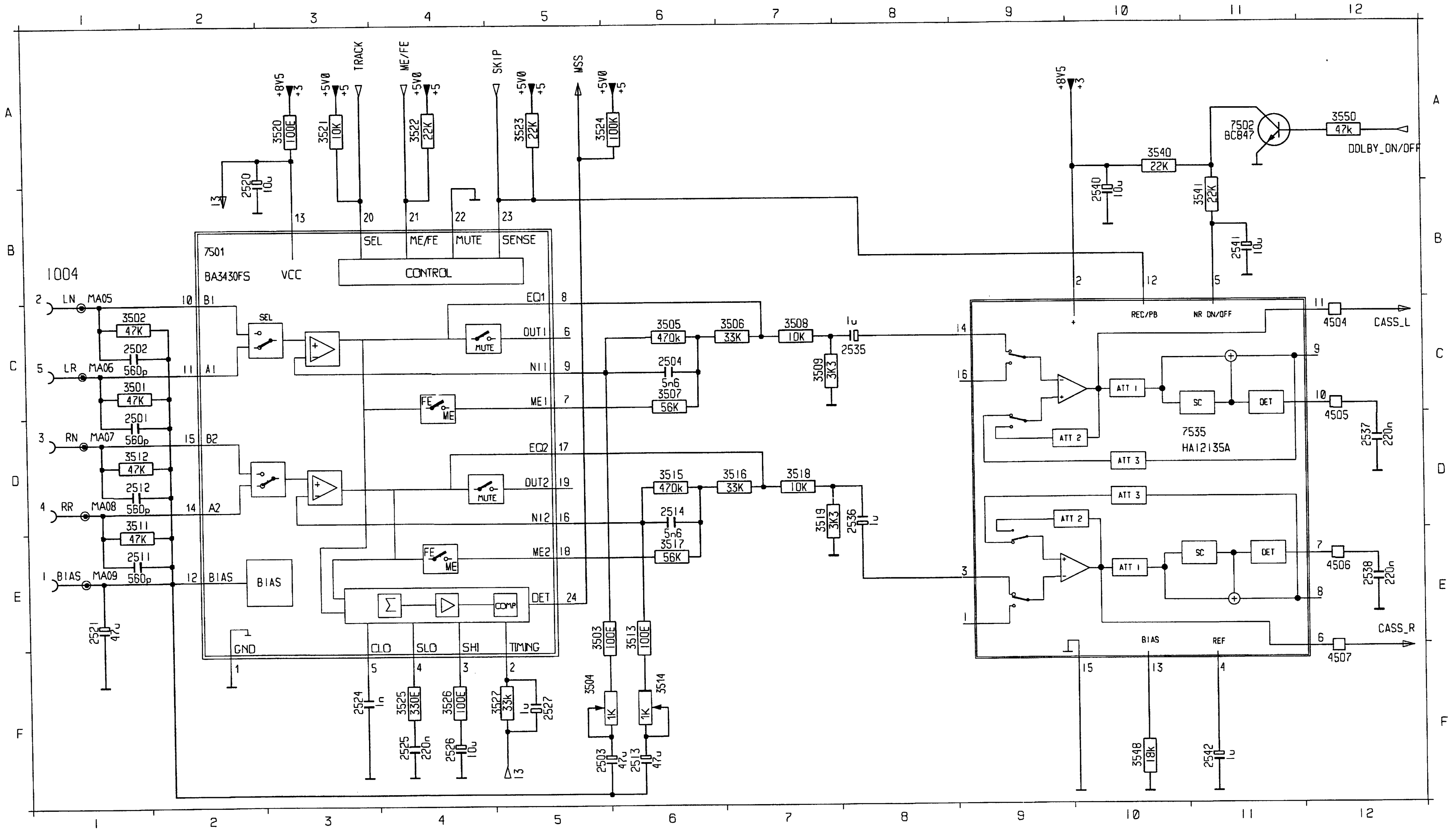
Pos.7604 BC847
B: 0,0 V
C: GND
E: 0,0 V

Pos.7605 BC847
B: 0,2 V / 0,6 V (AM)
C: 2,2 V / 0,0 V (AM)
E: GND

Pos.7606 BC847
B: 0,0 V / 0,6 V (MUTE)
C: 6,2 V / 0,0 V (MUTE)
E: GND

Pos.7609 BC847
B: 0,0 V
C: 3,2 V
E: GND

PREAMPLIFIER / DOLBY / MSS



1004
LN
LR
RN
RR
BIAS
MA05
MA06
MA07
MA08
MA09
7501
BA3430FS
VCC
SEL
ME/FE
MUTE
SENSE
CONTROL
TRACK
SKIP
MSS
+8V5
+5V0
DOLBY_ON/OFF
7502
BC847
7535
HA12135A
REC/PB
NR ON/OFF
ATT 1
ATT 2
ATT 3
SC
DET
BIAS
REF
CASS_L
CASS_R
4504
4505
4506
4507
EQ1
OUT1
NI1
ME1
EQ2
OUT2
NI2
ME2
DET
GND
CLO
SLO
SHI
TIMING
COMP
MUTE
FE
ME
3502 47K
2502 560p
3501 47K
2501 560p
3512 47K
2512 560p
3511 47K
2511 560p
2521 47u
2520 10u
3520 100E
3521 10K
3522 22K
3523 22K
3524 100K
3505 470k
3506 33K
3508 10K
2504
3507 56K
5n6
3509 3K3
2535 1u
3515 470k
3516 33K
3518 10K
2514
3517 56K
3519 3K3
2536 1u
2524 1n
3525 330E
2525 220n
3526 100E
2526 10u
3527 33K
2527 1u
3503 100E
3513 100E
3504 1K
3514 1K
2503 47u
2513 47u
3540 22K
2540 10u
3541 22K
2541 10u
3550 47k
2537 220n
2538 220n
3548 18k
2542 1u

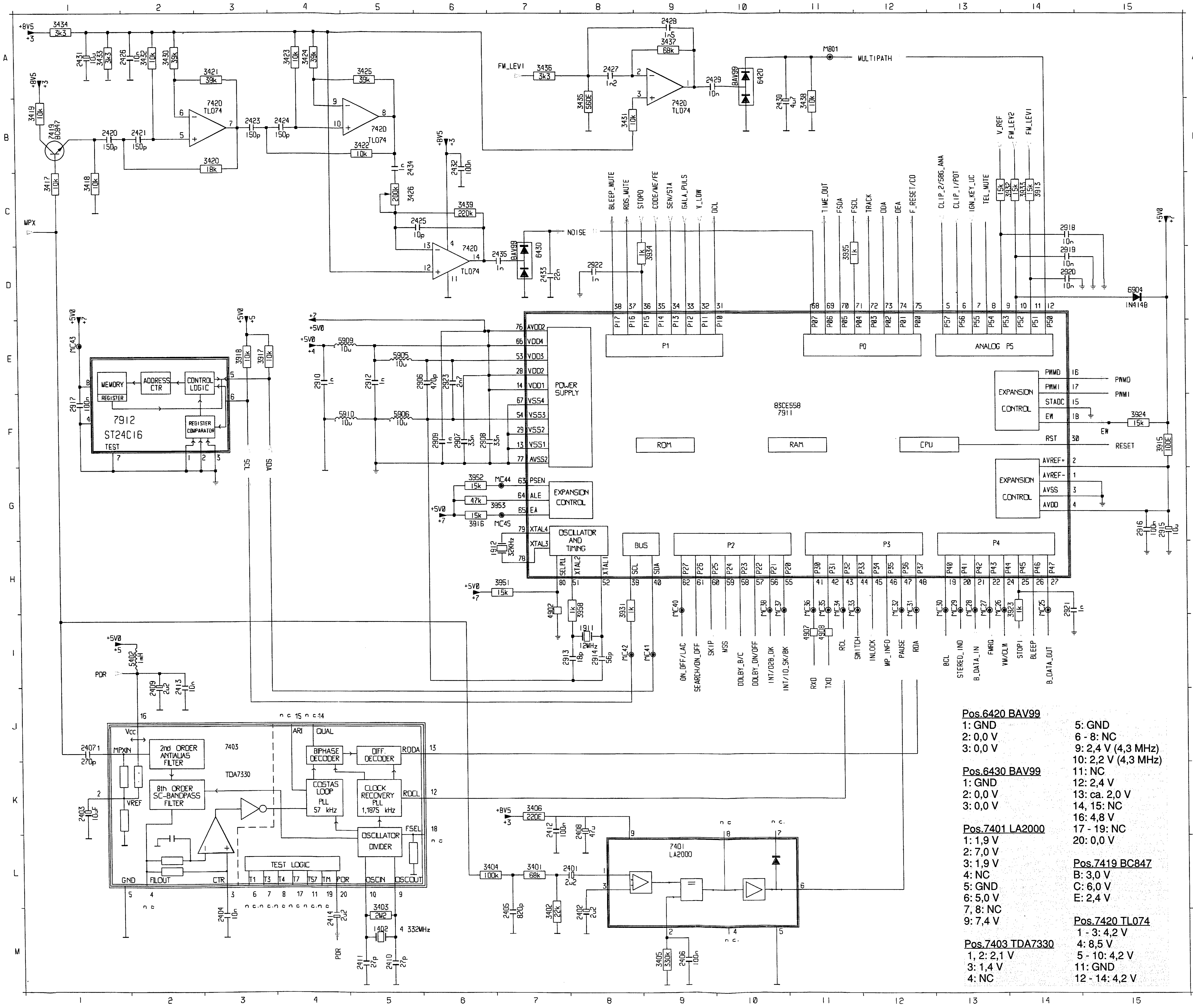
1004	B 1	4504	C12
2501	D 1	4505	D12
2502	C 1	4506	E12
2503	F 5	4507	F12
2504	C 6	7501	B 2
2511	E 1	7502	A11
2512	D 1	7535	D10
2513	F 6	MA05	B 1
2514	D 6	MA06	C 1
2520	A 2	MA07	D 1
2521	E 1	MA08	D 1
2524	F 3	MA09	E 1
2525	F 4		
2526	F 4		
2527	F 5		
2535	C 8		
2536	D 8		
2537	D12		
2538	E12		
2540	B10		
2541	B11		
2542	F11		
3501	C 1		
3502	C 1		
3503	E 5		
3504	F 5		
3505	C 6		
3506	C 7		
3507	C 6		
3508	C 7		
3509	C 7		
3511	D 1		
3512	D 1		
3513	E 6		
3514	F 6		
3515	D 6		
3516	D 7		
3517	E 6		
3518	D 7		
3519	D 7		
3520	A 3		
3521	A 3		
3522	A 4		
3523	A 5		
3524	A 6		
3525	F 4		
3526	F 4		
3527	F 5		
3540	A10		
3541	B11		
3548	F10		
3550	A12		

Pos.7501 BA3430FS
1: GND
2: 7,0 V
3: 3,0 V
4, 5: 3,1 V
6: NC
7 - 12: 3,1 V
13: 7,0 V
14 - 18: 3,1 V
19: NC
20: 2,5 V (NOR) / 0,0 V (REV)
21: 4,3 V (ME) / 0,0 V (FE)
22: GND
23: 0,1 V (PLAY) / 3,6 V (WIND, MSS)
24: 0,0 V / 5,0 V (NO SIGNAL ON TAPE)

Pos.7502 BC847
B: 0,6 V / 0,0 V (DOLBY ON)
C: 0,0 V / 8,4 V (DOLBY ON)
E: GND

Pos.7535 HA12135A
1: NC
2: 8,5 V
3, 4: 4,0 V
5: 0,4 V / 8,3 V (DOLBY ON)
6: 4,0 V
7: 1,3 V
8, 9: NC
10: 1,3 V
11: 4,0 V
12: 0,1 V (PLAY) / 3,6 V (WIND, MSS)
13: 0,9 V
14: 4,0 V
15: GND
16: NC

uC / RDS / NOISE / MULTIPATH



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J K L M
+8V5
3434 3k3
2431 10u
3433 3k3
2426 1n
3432 10k
3430 39k
3421 39k
7420 TL074
3420 18k
2420 150p
2421 150p
2423 150p
2424 150p
3419 10k
7419 BC847
3417 10k
3418 10k
MPX
3423 10k
3424 39k
3425 39k
3422 10k
3426 200k
2434 1n
2432 100n
3439 220k
2425 10p
2435 1n
BAV99
6430
2433 22n
NOISE
FM_LEV1
3436 3k3
2428 1n5
3437 68k
2427 1n2
3435 560E
3431 10k
2429 10n
6420
M801
MULTIPATH
2430 4u7
3438 10k
2922 1n
BLEEP_MUTE
RDS_MUTE
STOPO
CODE/ME/FE
SEN/STA
GALA_PULS
V_LOW
DCL
3934 1k
TIME_OUT
FSDA
FSCL
TRACK
ODA
OEA
F_RESET/CD
3935 1k
CLIP_2/586_ANA
CLIP_1/POT
IGN_KEY_UC
TEL_MUTE
V_REF
FM_LEV2
FM_LEV1
3932 15k
3933 15k
3913 15k
2918 10n
2919 10n
2920 10n
6904 1N4148
+5V0
P1
P0
ANALOG P5
83CE558
7911
POWER SUPPLY
ROM
RAM
CPU
EXPANSION CONTROL
PWMO
PWM1
STADC
EW
RST
RESET
AVREF+
AVREF-
AVSS
AVDD
PWMO
PWM1
3924 15k
3915 100E
2916 100n
2915 10u
AVDD2 VDD4 VDD3 VDD2 VDD1 VSS4 VSS3 VSS2 VSS1 AVSS2
5909 10u
5905 10u
5910 10u
5906 10u
2910 1n
2912 1n
2906 470p
2923 2n7
2909 1n
2907 33n
2908 33n
PSEN
ALE
EA
3952 15k
MC44
47k
3953
15k
3916
MC45
OSCILLATOR AND TIMING
XTAL4
XTAL3
1912 32KHz
BUS
SCL
SDA
P2
P3
P4
3951 15k
4902
3958 1k
1911 12MHz
2913 18p
2914 56p
3931 1k
MC42
MC41
ON_OFF/LAC
SEARCH/ON_OFF
SKIP
NSS
DOLBY_B/C
DOLBY_ON/OFF
INT/028_OK
INT/ID_SK/BK
RXD
TXD
RCL
SWITCH
INLOCK
MP_INFO
PAUSE
RDA
BCL
STEREO_IND
B_DATA_IN
FMRQ
VM/CLK
STOP1
BLEEP
B_DATA_OUT
3923
2921 1n
MC43
2917 100n
MEMORY
REGISTER
ADDRESS CTR
CONTROL LOGIC
REGISTER COMPARATOR
7912
ST24C16
TEST
3918 10k
3917 10k
SCL
SDA
5402 1mH
POR
2409 2u2
2413 1n
VCC
ARI
QUAL
2407 270p
MPXIN
2nd ORDER ANTIALIAS FILTER
7403
TDA7330
BIPHASE DECODER
DIFF. DECODER
RODA
8th ORDER SC-BANDPASS FILTER
COSTAS LOOP PLL 57 kHz
CLOCK RECOVERY PLL 1,1875 kHz
RDCL
VREF
2403 10uF
OSCILLATOR DIVIDER
FSEL
TEST LOGIC
GND
FILOUT
CTR
OSCIN
OSCOUT
2404 10n
2414 2u2
3403 2M2
1402 4.332MHz
2411 27p
2410 27p
3406 220E
2412 100n
2408 47u
7401
LA2000
3404 100k
3401 68k
2401 2u2
2405 820p
3402 22k
2402 2u2
3405 330k
2406 10n

Pos.6420 BAV99
1: GND
2: 0,0 V
3: 0,0 V

Pos.6430 BAV99
1: GND
2: 0,0 V
3: 0,0 V

Pos.7401 LA2000
1: 1,9 V
2: 7,0 V
3: 1,9 V
4: NC
5: GND
6: 5,0 V
7, 8: NC
9: 7,4 V

Pos.7403 TDA7330
1, 2: 2,1 V
3: 1,4 V
4: NC
5: GND
6 - 8: NC
9: 2,4 V (4,3 MHz)
10: 2,2 V (4,3 MHz)
11: NC
12: 2,4 V
13: ca. 2,0 V
14, 15: NC
16: 4,8 V
17 - 19: NC
20: 0,0 V

Pos.7419 BC847
B: 3,0 V
C: 6,0 V
E: 2,4 V

Pos.7420 TL074
1 - 3: 4,2 V
4: 8,5 V
5 - 10: 4,2 V
11: GND
12 - 14: 4,2 V

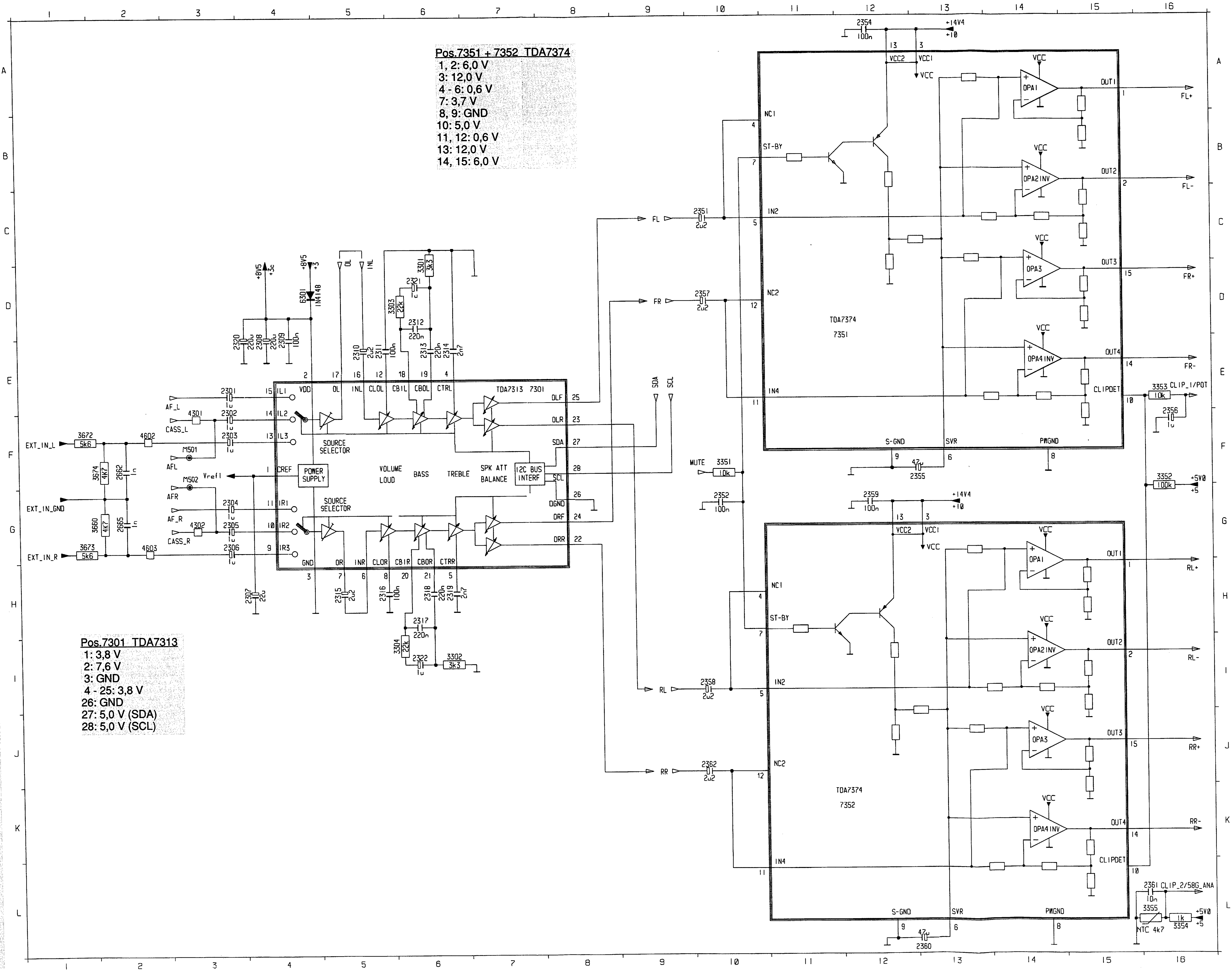
1402	M 5
1911	I 8
1912	H 7
2401	L 8
2402	M 8
2403	K 1
2404	M 3
2405	M 7
2406	M 9
2407	J 1
2408	K 8
2409	I 2
2410	M 5
2411	M 5
2412	K 7
2413	I 2
2414	M 4
2420	B 1
2421	B 2
2423	B 3
2424	B 4
2425	C 6
2426	A 2
2427	A 8
2428	A 9
2429	A10
2430	B11
2431	A 1
2432	B 6
2433	D 7
2434	B 5
2435	D 7
2906	E 6
2907	F 6
2908	F 6
2909	F 6
2910	E 4
2912	E 5
2913	I 8
2914	I 8
2915	G15
2916	G15
2917	F 1
2918	C14
2919	D14
2920	D14
2921	H14
2922	D 8
2923	E 6
3401	L 7
3402	M 7
3403	M 5
3404	L 6
3405	M 9
3406	K 7
3417	C 1
3418	C 1
3419	B 1
3420	B 3
3421	A 3
3422	B 5
3423	A 4
3424	A 4
3425	A 5
3426	C 5
3430	A 2
3431	B 8
3432	A 2
3433	A 1
3434	A 1
3435	B 8
3436	A 7
3437	A 9
3438	B11
3439	C 6
3913	C14
3915	F15
3916	G 6
3917	E 3
3918	E 3
3923	H14
3924	F15
3931	H 8
3932	C14
3933	C14
3934	D 9
3935	D11
3951	H 7
3952	G 6
3953	G 7
3958	H 8
4902	H 7
4907	I11
4908	I11
5402	I 2
5905	E 5
5906	F 5
5909	E 5
5910	F 5
6420	A10
6430	C 7
6904	D15
7401	L 9
7403	J 3
7419	B 1
7420	B 9
7420	B 3
7420	B 5
7420	D 6
7911	F10
7912	F 1
M801	A11
MC25	I14
MC26	I13
MC27	I13
MC28	I13
MC29	I13
MC30	I13
MC31	I12
MC32	I12
MC33	I11
MC34	I11
MC35	I11
MC36	I11
MC37	I10
MC38	I10
MC40	I 9
MC41	I 9
MC42	I 8
MC43	E 1
MC44	G 7
MC45	G 7

PCS 70 981

AUDIO CONTROL / AF POWER STAGE

Pos.7911 83CE558
1: GND
2: 5,0 V
3: GND
4: 5,0 V
5: 4,0 V
6: 4,9 V
7: 5,3 V
 / 0,1 V (ON WITH IGN.OFF)
8: 4,5 V / 0,6 V (PHONE)
9: 3,9 V
10: 1,0...6,0 V (LEVELDEP.)
11: 3,0...5,0 V (LEVELDEP.)
12: 0,0 V
13: GND
14: 5,0 V
15: GND
16 - 19: 5,0 V
20: 5,0 V
 / 0,0 V (MONO RECEIPTION)
21, 22: 5,0 V
23: NC
24: 0,6 V / 5,0 V (OFF)
25: 5,0 V / LOW (SEARCH)
26: 5,0 V
27: 4,4 V
28: 5,0 V
29: GND
30: 0,0 V
31, 32: 5,0 V
33: 0,0 V
34, 35: 5,0 V
36: 5,0 V / LOW (SEARCH)
37: 0,0 V / HIGH (SEARCH)
38: 0,0 V
39: 5,0 V (SCL)
40: 5,0 V (SDA)
41: 5,0 V
42: 0,0 V
43: 2,4 V
44: 0,0 V
 / 5,0 V (CASS.STANDBY)
45: 5,0 V
46: 0,0 V
47: 5,0 V
48: ca. 2,0 V
49, 50: NC
51: 2,6 V (11 MHz)
52: 2,0 V (11 MHz)
53: 5,0 V
54: 0,0 V
55, 56: 5,0 V
57: 4,3 V / 0,0 V (DOLBY ON)
58: NC
59: 0,0 V
 / 5,0 V (NO TAPE-SIGNAL)
60: 0,1 V / 3,6 V (WIND, MSS)
61: 5,0 V
 / 0,0 V (PUSH SEARCH KNOB)
62: 0,5 V / 5,0 V (OFF)
63: 5,0 V
64: 0,0 V
65, 66: 5,0 V
67: GND
68: 0,0 V
69: 5,0 V
 / 3,8 V (ON WITH IGN. OFF)
70: 5,0 V (SDA)
71: 5,0 V (SCL)
72: 2,5 V (NOR) / 0,0 V (REV)
73, 74: 5,2 V
75, 76: 5,0 V
77: GND
78, 79: NC
80: 5,0 V

Pos. 7912 ST24C16
1 - 4: GND
5: 4,8 V (SDA)
6: 4,8 V (SCL)
7: GND
8: 5,0 V


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K L
EXT_IN_L
3672 5k6
EXT_IN_GND
EXT_IN_R
3673 5k6
3674 4K7
3660 4K7
2662 1n
2665 1n
4602
4603
AF_L
CASS_L
4301
AFL
M501
M502
AFR
AF_R
CASS_R
4302
Vref1
2301 1u
2302 1u
2303 1u
2304 1u
2305 1u
2306 1u
2307 22u
2320 220u
2308 220u
2309 100n
+8V5
+3c
+8V5
+3
6301 1N4148
OL
INL
2310 2u2
2311 100n
2312 220n
2313 220n
2314 2n7
2321 1u
3303 22k
3301 3k3
TDA7313 7301
IL1
IL2
IL3
VDD
CREF
POWER SUPPLY
SOURCE SELECTOR
VOLUME
LOUD
BASS
TREBLE
SPK ATT
BALANCE
I2C BUS INTERF
CLOL
CBIL
CBOL
CTRL
OLF
OLR
SDA
SCL
DGND
ORF
ORR
IR1
IR2
IR3
GND
OR
INR
CLOR
CBIR
CBOR
CTRR
2315 2u2
2316 100n
2317 220n
2318 220n
2319 2n7
2322 1u
3304 22k
3302 3k3
SDA
SCL
FL
FR
RL
RR
2351 2u2
2357 2u2
2358 2u2
2362 2u2
MUTE
3351 10k
2352 100n
2354 100n
2359 100n
+14V4
+10
VCC2
VCC1
VCC
NC1
NC2
ST-BY
IN2
IN4
OPA1
OPA2INV
OPA3
OPA4INV
OUT1
OUT2
OUT3
OUT4
CLIPDET
S-GND
SVR
PWGND
TDA7374 7351
TDA7374 7352
47u
2355
2360
FL+
FL-
FR+
FR-
RL+
RL-
RR+
RR-
3353 CLIP_1/POT
10k
2356 1u
3352 100k
+5V0
+5
2361 CLIP_2/58G_ANA
10n
3355
NTC 4k7
1k
3354

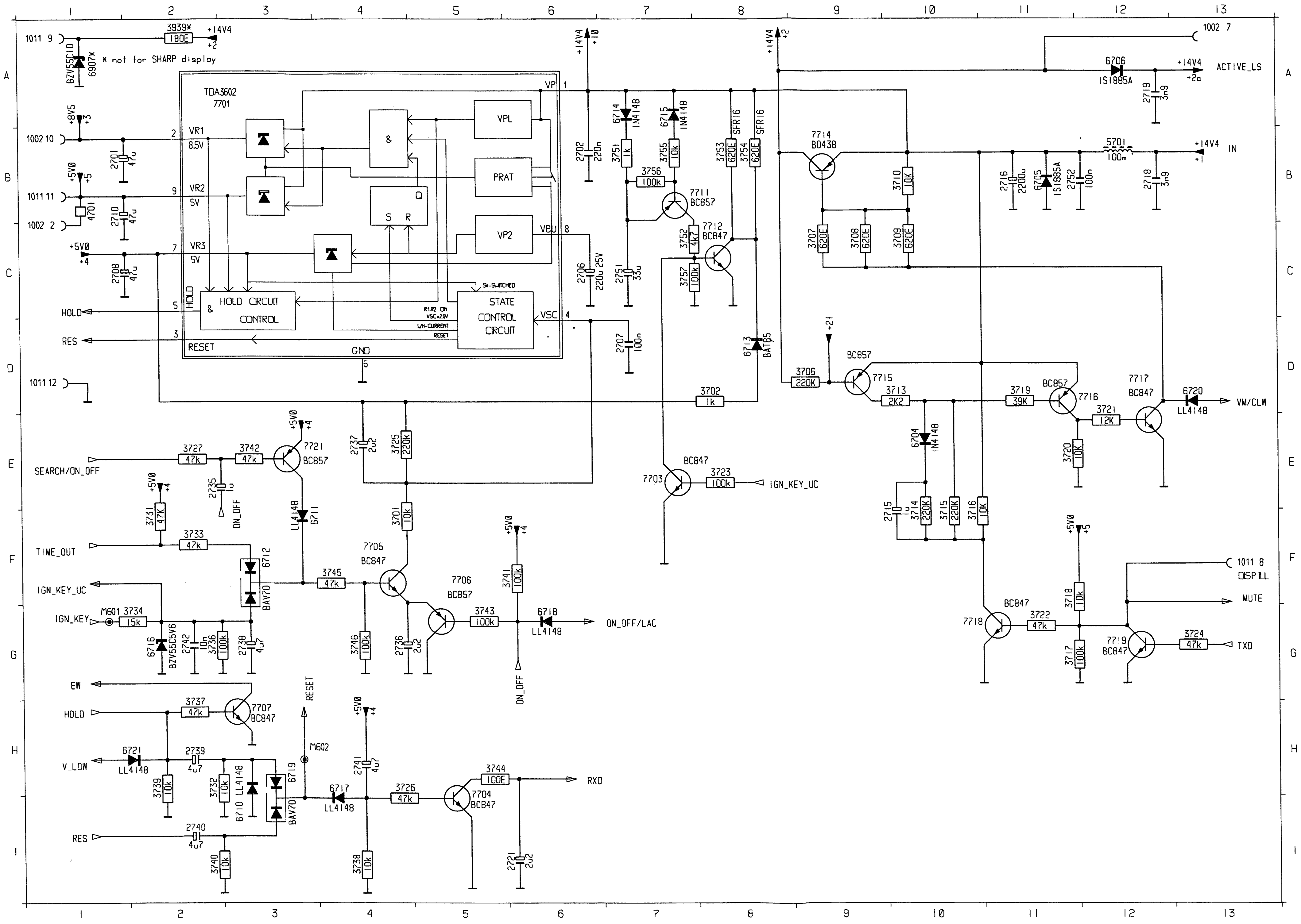
Pos.7351 + 7352 TDA7374
1, 2: 6,0 V
3: 12,0 V
4 - 6: 0,6 V
7: 3,7 V
8, 9: GND
10: 5,0 V
11, 12: 0,6 V
13: 12,0 V
14, 15: 6,0 V

Pos.7301 TDA7313
1: 3,8 V
2: 7,6 V
3: GND
4 - 25: 3,8 V
26: GND
27: 5,0 V (SDA)
28: 5,0 V (SCL)

2301	E 3
2302	F 3
2303	F 3
2304	G 3
2305	G 3
2306	G 3
2307	H 4
2308	E 4
2309	E 4
2310	E 5
2311	E 5
2312	D 6
2313	E 6
2314	E 6
2315	H 5
2316	H 5
2317	H 6
2318	H 6
2319	H 6
2320	E 3
2321	D 6
2322	I 6
2351	C10
2352	G10
2354	A12
2355	F13
2356	F16
2357	D10
2358	I10
2359	G12
2360	L13
2361	L16
2362	J10
2662	F 2
2665	G 2
3301	D 6
3302	I 6
3303	D 6
3304	I 6
3351	F10
3352	F16
3353	E16
3354	L16
3355	L16
3660	G 2
3672	F 1
3673	G 1
3674	F 2
4301	F 3
4302	G 3
4602	F 2
4603	G 2
6301	D 4
7301	E 7
7351	E11
7352	K11
M501	F 3
M502	F 3

POWER SUPPLY

1002	C 1	2706	C 6	2735	E 2	2752	B11	3714	F10	3723	E 8	3736	G 2	3745	F 4	3939*	A 2	6713	D 8	6907*	A 1	7714	B 9
1002	A13	2707	D 7	2736	G 4	3701	F 4	3715	F10	3724	G13	3737	H 2	3746	G 4	4701	B 1	6714	A 7	7701	A 2	7715	D 9
1002	B 1	2708	C 1	2737	E 4	3702	D 8	3716	F10	3725	E 4	3738	I 4	3751	B 7	5701	B12	6715	A 7	7703	E 7	7716	D12
1011	F13	2710	B 1	2738	G 3	3706	D 9	3717	G11	3726	H 4	3739	H 2	3752	C 7	6704	E10	6716	G 2	7704	I 5	7717	D12
1011	A 1	2715	F10	2739	H 2	3707	C 9	3718	F11	3727	E 2	3740	I 2	3753	B 8	6705	B11	6717	H 4	7705	F 4	7718	G10
1011	B 1	2716	B11	2740	I 2	3708	C 9	3719	D11	3731	F 2	3741	F 6	3754	B 8	6706	A12	6718	G 6	7706	F 5	7719	G12
1011	D 1	2718	B12	2741	H 4	3709	C10	3720	E11	3732	H 2	3742	E 3	3755	B 7	6710	I 3	6719	H 3	7707	H 3	7721	E 3
2701	B 1	2719	A12	2742	G 2	3710	B10	3721	D12	3733	F 2	3743	G 5	3756	B 7	6711	F 3	6720	D13	7711	B 8	M601	G 1
2702	B 6	2721	I 6	2751	C 7	3713	D10	3722	G11	3734	G 2	3744	H 5	3757	C 7	6712	F 3	6721	H 2	7712	C 8	M602	H 3



1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I
1011 9
3939*
180E
+14V4
+2
BZV55C10
6907*
* not for SHARP display
TDA3602
7701
VR1
8.5V
VR2
5V
VR3
5V
VP
VPL
PRAT
VP2
VBU
VSC
&
Q
S R
HOLD CIRCUIT CONTROL
STATE CONTROL CIRCUIT
RESET
GND
HOLD
RES
+8V5
1002 10
+5V0
1011 11
1002 2
1011 12
2701 47u
2710 47u
2708 47u
4701
2702 220n
2706 220u 25V
2707 100n
2751 33u
6714 1N4148
6715 1N4148
3751 1k
3755 10k
3756 100k
7711 BC857
3752 4k7
7712 BC847
3757 100k
3753 620E
3754 620E
SFR16
6713 BAT85
3702 1k
+14V4
7714 BD438
3707 620E
3708 620E
3709 620E
3710 10K
1002 7
6706 1S1885A
+14V4
ACTIVE_LS
2719 3n9
5701 100m
+14V4 IN
2716 2200u
6705 1S1885A
2752 100n
2718 3n9
+21
3706 220K
BC857
7715
3713 2K2
3719 39K
BC857 7716
3721 12K
7717 BC847
6720 LL4148
VM/CLW
6704 1N4148
2715 1u
3714 220K
3715 220K
3716 10K
3720 10K
SEARCH/ON_OFF
3727 47k
3742 47k
7721 BC857
+5V0
2735 1u
ON_OFF
2737 2u2
3725 220K
BC847
7703
3723 100k
IGN_KEY_UC
3731 47K
TIME_OUT
3733 47k
6712 BAV70
6711 LL4148
3701 10k
7705 BC847
3745 47k
IGN_KEY_UC
IGN_KEY
M601 3734 15k
6716 BZV55C5V6
2742 10n
3736 100k
2738 4u7
3746 100k
2736 2u2
7706 BC857
3743 100k
3741 100k
6718 LL4148
ON_OFF/LAC
ON_OFF
+5V0
1011 8
DISP ILL
MUTE
7718 BC847
3722 47k
3718 10k
3717 100k
7719 BC847
3724 47k
TXD
EN
HOLD
3737 47k
7707 BC847
RESET
M602
V_LOW
6721 LL4148
2739 4u7
3739 10k
3732 10k
6710 LL4148
6719 BAV70
2741 4u7
6717 LL4148
3726 47k
7704 BC847
3744 100E
RXD
RES
2740 4u7
3740 10k
3738 10k
2721 2u2

Pos.6712 BAV70
1: 5,2 V / 0,0 V (ON WITH IGN.OFF)
2: 5,0 V / 2,7 V (ON WITH IGN.OFF)
3: 4,8 V / 2,3 V (ON WITH IGN.OFF)

Pos.6719 BAV70
1: 0,0 V
2: 0,0 V
3: 0,0 V

Pos.7701 TDA3602
1: 12,0 V
2: 8,5 V
3: 5,0 V
4: 0,8 V / 5,0 V (OFF)
5: 5,0 V
6: GND
7: 5,0 V
8: 12,0 V
9: 5,0 V

Pos.7703 BC857
B: 0,6 V / 0,1 V (ON WITH IGN.OFF)
C: 0,0 V
E: GND

Pos.7704 BC857
B: 0,0 V
C: 5,0 V
E: GND

Pos.7705 BC857
B: 1,2 V
C: 0,5 V / 5,0 V (OFF)
E: 0,5 V / 2,9 V (OFF)

Pos.7706 BC847
B: 0,0 V / 5,0 V (OFF)
C: GND
E: 0,5 V / 2,9 V (OFF)

Pos.7711 BC857
B: 12,0 V
C: 0,0 V
E: 12,0 V

Pos.7712 BC847
B: 0,0 V
C: 12,0 V
E: GND

Pos.7714 BD438
B: 12,0 V
C: 12,0 V / 0,5 V (IGN.OFF)
E: 12,0 V

Pos.7715 BC857
B: 12,0 V
C: 8,6 V / 12,0 V IGN.OFF)
E: 12,0 V

Pos.7716 BC857
B: 11,6 V / 12,0 V (OFF)
C: 12,0 V / 0,0 V (OFF)
E: 12,0 V

Pos.7717 BC847
B: 0,8 V
C: 0,2 V / 12,0 V (OFF)
E: GND

Pos.7718 BC847
B: 0,6 V
C: 0,0 V / 12,0 V (OFF)
E: GND

Pos.7719 BC847
B: 0,0 V / 0,6 V (OFF)
C: 4,5 V
E: GND

Pos.7721 BC857
B: 5,0 V / 4,4 V (PUSH SEARCH KNOB)
C: 0,0 V / 5,0 V (PUSH SEARCH KNOB)
E: 5,0 V

CONNECTORBLOCK / BUS MODUL / GALA / SUBWOOFER CONTROL

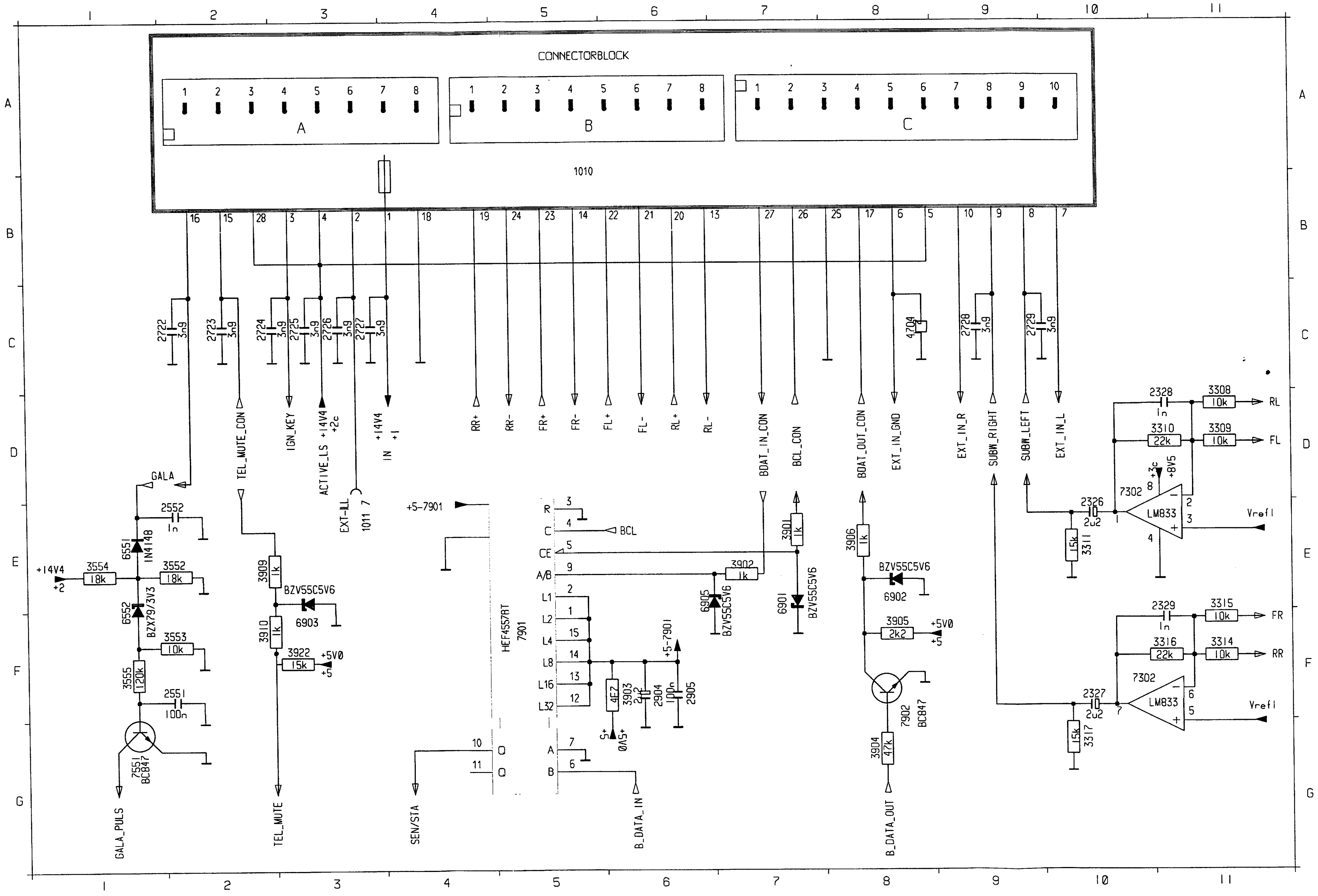
1010	B 5	2551	F 2	2726	C 3	3308	D11	3316	F11	3901	E 7	3909	E 2	6901	E 7	7551	G 1
1011	E 3	2552	E 2	2727	C 3	3309	D11	3317	G10	3902	E 7	3910	F 2	6902	E 8	7901	F 5
2326	E10	2722	C 2	2728	C 9	3310	D11	3552	E 2	3903	F 6	3922	F 3	6903	F 3	7902	G 8
2327	F10	2723	C 2	2729	C 9	3311	E10	3553	F 2	3904	G 8	4704	C 8	6905	E 6		
2328	D11	2724	C 2	2904	F 6	3314	F11	3554	E 1	3905	F 8	6551	E 1	7302	D10		
2329	F11	2725	C 3	2905	F 6	3315	E11	3555	F 1	3906	E 8	6552	E 1	7302	F10		

Pos.7551 BC847
B: 0,5 V
C: 0,0 V
E: GND

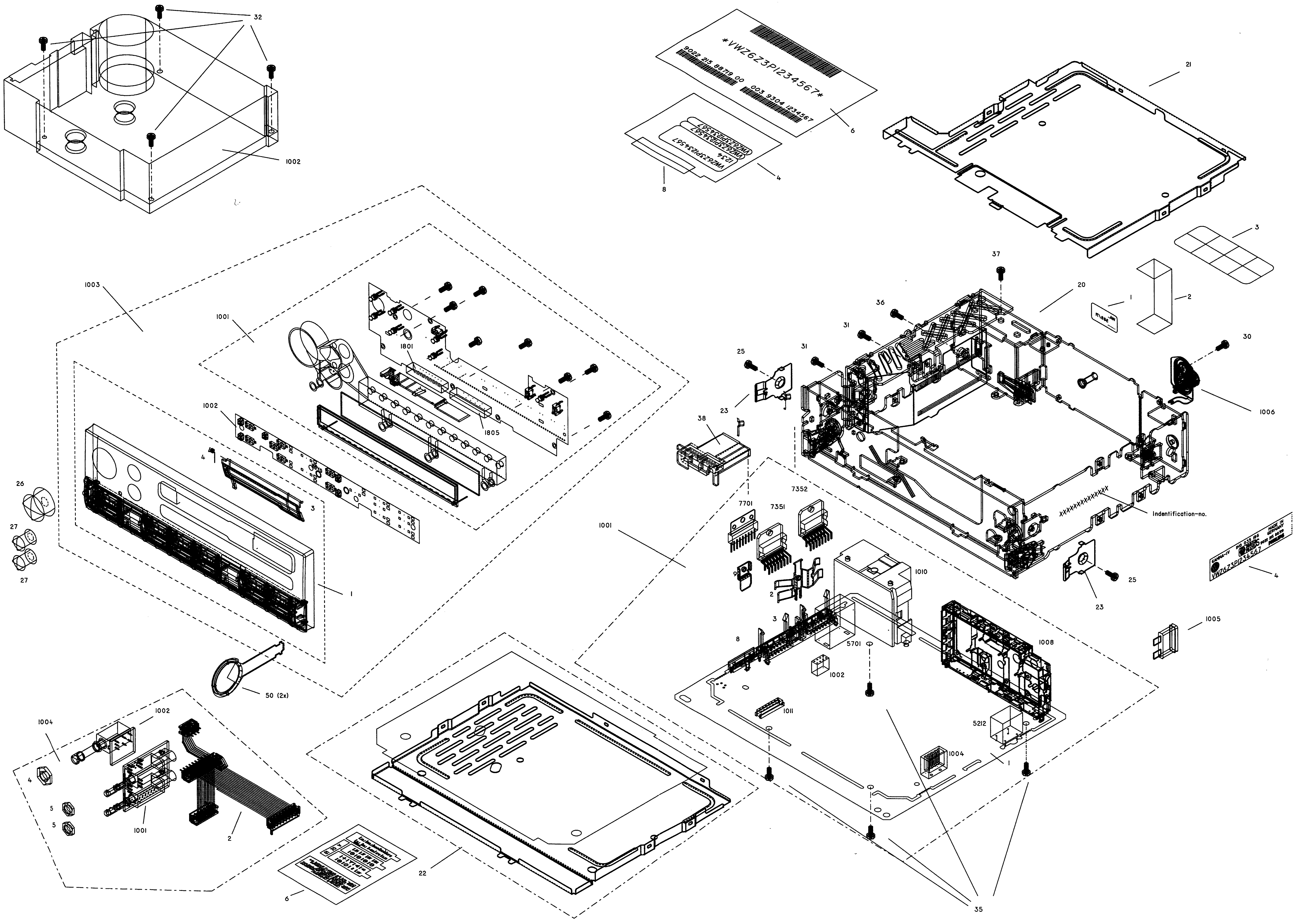
Pos.7901 HEF4557BT
(measured without CD-Changer contacted)
1, 2: 5,0 V
3: GND
4: 5,0 V
5: 0,0 V
6: 5,0 V
7, 8: GND
9: 0,0 V
10: 5,0 V
11: NC
12 - 16: 5,0 V

Pos.7902 BC847
B: 0,0 V
C: 0,0 V
E: GND

Pos.7302 LM833
1 - 3: 3,8 V
4: GND
5 - 7: 3,8 V
8: 7,6 V



CONNECTORBLOCK
A
B
C
1010
1011
GALA
GALA_PULS
TEL_MUTE_CON
TEL_MUTE
IGN_KEY
ACTIVE_LS +14V4 +2c
EXT-ILL
+14V4 IN +1
+5-7901
RR+
RR-
FR+
FR-
FL+
FL-
RL+
RL-
BDAT_IN_CON
BCL_CON
BDAT_OUT_CON
EXT_IN_GND
EXT_IN_R
SUBW_RIGHT
SUBW_LEFT
EXT_IN_L
BCL
HEF4557BT
7901
SEN/STA
B_DATA_IN
B_DATA_OUT
7551 BC847
7902 BC847
6551 1N4148
6552 BZX79/3V3
BZV55C5V6
7302 LM833
Vref1
RL
FL
FR
RR
+5V0
+14V4


VWZ6Z3P1234567
9022 215 88719 00
003 9304 1234567
VWZ6Z3P1234567
1801
1805
Indentification-no.
50 (2x)

MECHANICAL PARTS

21	4822	423	41246	COVER GAMMA
22	4822	423	41228	COVER BOTTOM ASSY
23	4822	492	71352	SPRING CENTRE
25	4822	502	11689	M 3 X 6CSK ZNBK
26	4822	413	31746	KNOB VOLUME ASSY
27	4822	413	31776	KNOB TONE ASSY
30	4822	502	11715	M 2,5X 5PAN ZNBK
33	4822	502	11715	M 2,5X 5PAN ZNBK
36	4822	502	11715	M 2,5X 5PAN ZNBK
37	4822	502	11715	M 2,5X 5PAN ZNBK
1001-1004	4822	267	40818	TCS83S9V1 BURNDY
1001-1008	4822	210	10579	FM MODUL
1001-1010	4822	290	61187	CONNECTOR BLOCK ASSY
1001-1011	4822	267	51057	CONNECTOR 12P
1002	4822	701	13642	SCA4.4
1003-1	4822	459	50799	ORNAMENTAL PLATE
1003-1-3	4822	443	64036	CASSETTE FLAP
1003-1-4	4822	492	42481	FLAP SPRING
1003-1001	4822	214	52127	PWB LCD ASSY
1003-1001-1801	4822	267	51287	AMP0-215460-01
1003-1001-1805	4822	265	41315	CONNECTOR 10P
1003-1002	4822	214	52124	PWB SWITCH ASSY
1004-2	4822	321	62208	CABLE ASSY POTMETER
1004-1001	4822	214	52125	PWB POTI ASSY TONE
1004-1002	4822	214	52126	PWB POTI ASSY VOLUME
1005	4822	071	21003	257010.(FUSE 10A)
1006	4822	267	31702	BUSH AERIAL ASSY

How to find Codenumbers:

This exploded view is illustrated in a multi-level form. To find the correct codenumber you have to combine the position number of the needed part with the position number of the assembly in which it is in.

Only the position numbers connected to a codenumber are available as spare part.

MISCELLANEOUS

1201	4822 242 72076	QUARZ 10,7 MHZ
1202	4822 242 72076	QUARZ 10,7 MHZ
1203	4822 242 71883	SFE10,7MS318-D
1204	4822 242 71883	SFE10,7MS318-D
1251	4822 242 71874	QUARZ 4,0 MHZ
1402	4822 242 72195	QUARZ 4,332 MHZ
1601	4822 242 81117	CSB456F11
1866	4822 276 20521	SWITCH FF
1867	4822 276 20521	SWITCH FR
1868	4822 276 20521	SWICH EJECT

CAPACITORS

2101	4822 124 23256	47UF		16V
2102	5322 122 32654	22NF	10%X7R	63V
2104	4822 122 33177	10NF	20%X7R	50V
2106	4822 122 33177	10NF	20%X7R	50V
2107	5322 122 32654	22NF	10%X7R	63V
2108	4822 124 40177	47UF	20%	10V
2109	4822 122 33177	10NF	20%X7R	50V
2110	4822 122 33177	10NF	20%X7R	50V
2111	4822 122 33177	10NF	20%X7R	50V
2201	5322 122 31647	1NF	10%X7R	63V
2202	4822 122 32082	4,7PF	5%	50V
2203	5322 122 32659	33PF	5%	50V
2204	5322 122 32448	10PF	5%	50V
2205	4822 122 33216	270PF	5% NP0	50V
2206	4822 122 33216	270PF	5% NP0	50V
2208	4822 124 23282	1UF	20%	50V
2209	4822 124 23256	47UF		16V
2210	4822 122 33496	100NF	10%X7R	63V
2211	4822 122 33177	10NF	20%X7R	50V
2212	4822 122 32916	220NF	10%X7R	63V
2213	4822 122 33177	10NF	20%X7R	50V
2214	4822 122 33496	100NF	10%X7R	63V
2215	4822 124 23279	22UF	20%	16V
2217	4822 122 33496	100NF	10%X7R	63V
2218	4822 124 22646	47UF	20%	16V
2219	4822 121 51354	1NF	10%	50V
2220	5322 126 10223	4,7NF	10%X7R	63V
2221	4822 122 32627	2.7NF	10%X7R	50V
2222	4822 122 32542	47NF	10%X7R	63V
2223	5322 122 32658	22PF	5%	50V
2230	4822 122 33178	1NF	20%X7R	50V
2231	4822 122 32082	4,7PF	5%	50V
2232	5322 122 32448	10PF	5%	50V
2233	5322 122 32658	22PF	5%	50V
2240	5322 122 32654	22NF	10%X7R	63V
2241	4822 122 33177	10NF	20%X7R	50V
2242	4822 122 32082	4,7PF	5%	50V
2243	4822 122 33216	270PF	5% NP0	50V
2246	4822 122 33177	10NF	20%X7R	50V
2251	4822 122 32566	3,9NF	10%X7R	63V
2252	4822 122 33177	10NF	20%X7R	50V
2253	5322 122 32654	22NF	10%X7R	63V
2254	4822 122 33608	39NF	10%X7R	63V
2255	4822 122 32916	220NF	10%X7R	63V
2256	5322 122 32654	22NF	10%X7R	63V
2257	4822 124 23281	33UF	20%	16V
2258	4822 122 33177	10NF	20%X7R	50V
2259	4822 124 23255	100UF		16V
2261	4822 122 32916	220NF	10%X7R	63V

CAPACITORS

2301	4822 124 23282	1UF	20%	50V
2302	4822 124 23282	1UF	20%	50V
2303	4822 124 23282	1UF	20%	50V
2304	4822 124 23282	1UF	20%	50V
2305	4822 124 23282	1UF	20%	50V
2306	4822 124 23282	1UF	20%	50V
2307	4822 124 80453	100UF	20%	10V
2309	4822 122 33496	100NF	10%X7R	63V
2310	4822 124 23504	2.2UF	20%	50V
2311	4822 122 33496	100NF	10%X7R	63V
2312	4822 122 32916	220NF	10%X7R	63V
2313	4822 122 32542	47NF	10%X7R	63V
2314	4822 122 32627	2.7NF	10%X7R	50V
2315	4822 124 23504	2.2UF	20%	50V
2316	4822 122 33496	100NF	10%X7R	63V
2317	4822 122 32916	220NF	10%X7R	63V
2318	4822 122 32542	47NF	10%X7R	63V
2319	4822 122 32627	2.7NF	10%X7R	50V
2320	4822 124 23582	220UF		10V
2326	4822 124 23504	2.2UF	20%	50V
2327	4822 124 23504	2.2UF	20%	50V
2328	4822 122 33178	1NF	20%X7R	50V
2329	4822 122 33178	1NF	20%X7R	50V
2351	4822 124 23504	2.2UF	20%	50V
2352	4822 122 33496	100NF	10%X7R	63V
2354	4822 122 33496	100NF	10%X7R	63V
2355	4822 124 80724	47UF	20%	10V
2356	4822 124 80725	1UF	20%	50V
2357	4822 124 23504	2.2UF	20%	50V
2358	4822 124 23504	2.2UF	20%	50V
2359	4822 122 33496	100NF	10%X7R	63V
2360	4822 124 80724	47UF	20%	10V
2361	4822 122 33177	10NF	20%X7R	50V
2362	4822 124 23504	2.2UF	20%	50V
2401	4822 124 23504	2.2UF	20%	50V
2402	4822 124 23504	2.2UF	20%	50V
2403	4822 124 41017	10UF		16V
2404	4822 122 33177	10NF	20%X7R	50V
2405	4822 122 33218	820PF	10%X7R	63V
2406	4822 122 33496	100NF	10%X7R	63V
2407	4822 122 33216	270PF	5% NP0	50V
2408	4822 124 22646	47UF	20%	16V
2409	4822 124 23504	2.2UF	20%	50V
2410	5322 122 31946	27PF	10%	50V
2411	5322 122 31946	27PF	10%	50V
2412	4822 122 33496	100NF	10%X7R	63V
2413	4822 122 33177	10NF	20%X7R	50V
2414	4822 124 23504	2.2UF	20%	50V
2420	5322 122 33538	150PF	2% NP0	63V
2421	5322 122 33538	150PF	2% NP0	63V
2423	5322 122 33538	150PF	2% NP0	63V
2424	5322 122 33538	150PF	2% NP0	63V
2425	5322 122 32448	10PF	5%	50V
2426	4822 122 33177	10NF	20%X7R	50V
2427	4822 122 32614	1.2NF	10%X7R	50V
2428	5322 122 31865	1.5NF	10%X7R	63V
2429	4822 122 33177	10NF	20%X7R	50V
2430	4822 124 23401	4.7UF	20%	25V
2431	4822 124 41017	10UF		16V
2432	4822 122 33496	100NF	10%X7R	63V
2433	5322 122 32654	22NF	10%X7R	63V

CAPACITORS

2434	4822 122 33178	1NF	20%X7R	50V
2435	4822 122 33178	1NF	20%X7R	50V
2501	4822 122 33173	560PF	10%X7R	50V
2502	4822 122 33173	560PF	10%X7R	50V
2503	4822 124 40177	47UF	20%	10V
2504	4822 122 32646	5,6NF	10%X7R	50V
2511	4822 122 33173	560PF	10%X7R	50V
2512	4822 122 33173	560PF	10%X7R	50V
2513	4822 124 40177	47UF	20%	10V
2514	4822 122 32646	5,6NF	10%X7R	50V
2520	4822 124 41017	10UF		16V
2521	4822 124 40177	47UF	20%	10V
2524	4822 122 33178	1NF	20%X7R	50V
2525	4822 122 32916	220NF	10%X7R	63V
2526	4822 124 41017	10UF		16V
2527	4822 124 23282	1UF	20%	50V
2535	4822 124 23282	1UF	20%	50V
2536	4822 124 23282	1UF	20%	50V
2537	4822 126 12106	220NF	5%	
2538	4822 126 12106	220NF	5%	
2540	4822 124 41017	10UF		16V
2541	4822 124 41017	10UF		16V
2542	4822 124 23282	1UF	20%	50V
2551	4822 122 33496	100NF	10%X7R	63V
2601	4822 124 23282	1UF	20%	50V
2602	4822 122 33514	68PF	5% NP0	50V
2605	4822 122 33496	100NF	10%X7R	63V
2606	4822 124 23281	33UF	20%	16V
2607	5322 122 32268	470PF	10%	50V
2608	4822 122 33496	100NF	10%X7R	63V
2610	4822 124 41017	10UF		16V
2611	4822 124 23282	1UF	20%	50V
2612	4822 122 33496	100NF	10%X7R	63V
2613	4822 122 32916	220NF	10%X7R	63V
2614	5322 122 32654	22NF	10%X7R	63V
2615	4822 122 33496	100NF	10%X7R	63V
2616	5322 122 32268	470PF	10%	50V
2617	5322 122 33538	150PF	2% NP0	63V
2618	5322 122 31866	6,8NF	10%X7R	63V
2619	5322 122 31866	6,8NF	10%X7R	63V
2620	5322 122 32531	100PF	5% NP0	50V
2621	5322 122 32531	100PF	5% NP0	50V
2623	4822 122 33178	1NF	20%X7R	50V
2626	4822 122 33216	270PF	5% NP0	50V
2662	4822 122 33178	1NF	20%X7R	50V
2665	4822 122 33178	1NF	20%X7R	50V
2701	4822 124 80724	47UF	20%	10V
2702	4822 122 32916	220NF	10%X7R	63V
2706	4822 124 41097	220UF	20%	16V
2707	4822 122 33496	100NF	10%X7R	63V
2708	4822 124 80724	47UF	20%	10V
2710	4822 124 80724	47UF	20%	10V
2715	4822 124 23282	1UF	20%	50V
2718	4822 122 32566	3,9NF	10%X7R	63V
2719	4822 122 32566	3,9NF	10%X7R	63V
2721	4822 124 80726	2.2UF	20%	50V
2722	4822 122 32566	3,9NF	10%X7R	63V
2723	4822 122 32566	3,9NF	10%X7R	63V
2724	4822 122 32566	3,9NF	10%X7R	63V
2725	4822 122 32566	3,9NF	10%X7R	63V
2726	4822 122 32566	3,9NF	10%X7R	63V

CAPACITORS

2727	4822 122 32566	3,9NF	10%X7R	63V
2728	4822 122 32566	3,9NF	10%X7R	63V
2729	4822 122 32566	3,9NF	10%X7R	63V
2735	4822 124 23282	1UF	20%	50V
2736	4822 124 23504	2.2UF	20%	50V
2737	4822 124 23504	2.2UF	20%	50V
2738	4822 124 23401	4.7UF	20%	25V
2739	4822 124 23401	4.7UF	20%	25V
2740	4822 124 23401	4.7UF	20%	25V
2741	4822 124 80727	4.7UF	20%	25V
2742	4822 122 33177	10NF	20%X7R	50V
2751	4822 124 23281	33UF	20%	16V
2752	4822 122 33496	100NF	10%X7R	63V
2801	5322 122 33869	15PF	5% NP0	63V
2802	5322 122 33869	15PF	5% NP0	63V
2803	4822 122 33496	100NF	10%X7R	63V
2804	4822 122 33496	100NF	10%X7R	63V
2805	4822 122 33496	100NF	10%X7R	63V
2806	4822 122 33496	100NF	10%X7R	63V
2807	4822 122 33496	100NF	10%X7R	63V
2808	4822 122 32566	3,9NF	10%X7R	63V
2809	4822 122 32566	3,9NF	10%X7R	63V
2810	4822 122 32566	3,9NF	10%X7R	63V
2811	4822 122 32566	3,9NF	10%X7R	63V
2812	4822 122 32566	3,9NF	10%X7R	63V
2904	4822 124 23504	2.2UF	20%	50V
2905	4822 122 33496	100NF	10%X7R	63V
2906	5322 122 32268	470PF	10%	50V
2907	4822 122 33342	33NF	10%X7R	63V
2908	4822 122 33342	33NF	10%X7R	63V
2909	4822 122 33178	1NF	20%X7R	50V
2910	4822 122 33178	1NF	20%X7R	50V
2912	4822 122 33178	1NF	20%X7R	50V
2913	5322 122 32965	18PF	5% NPO	50V
2914	5322 122 32661	56PF	5%	50V
2915	4822 124 41017	10UF		16V
2916	4822 122 33496	100NF	10%X7R	63V
2917	4822 122 33496	100NF	10%X7R	63V
2918	4822 122 33177	10NF	20%X7R	50V
2919	4822 122 33177	10NF	20%X7R	50V
2920	4822 122 33177	10NF	20%X7R	50V
2921	4822 122 33178	1NF	20%X7R	50V
2922	4822 122 33178	1NF	20%X7R	50V
2923	4822 122 32627	2.7NF	10%X7R	50V
2925	4822 122 32891	68NF	10%X7R	63V
2926	4822 124 80264	1,5UF	20%	50V

RESISTORS

3101	4822 051 20478	4R70	5%	0,1W
3102	4822 051 20102	1K00	5%	0,1W
3103	4822 051 20221	220R00	5%	0,1W
3105	4822 100 11163	100K	30%LIN	0,1W
3106	4822 051 20478	4R70	5%	0,1W
3107	4822 051 20273	27K00	5%	0,1W
3201	4822 051 20561	560R00	5%	0,1W
3202	4822 051 20471	470R00	5%	0,1W
3205	4822 051 20102	1K00	5%	0,1W
3206	4822 051 20102	1K00	5%	0,1W
3207	4822 051 20153	15K00	5%	0,1W
3208	4822 051 20333	33K00	5%	0,1W
3212	4822 051 20472	4K70	5%	0,1W

RESISTORS

3215	4822 051 20103	10K00	5%	0,1W
3216	4822 051 20104	100K00	5%	0,1W
3217	4822 051 20103	10K00	5%	0,1W
3218	4822 051 20103	10K00	5%	0,1W
3219	4822 051 20224	220K00	5%	0,1W
3230	4822 051 20224	220K00	5%	0,1W
3231	4822 051 20152	1K50	5%	0,1W
3232	4822 051 20104	100K00	5%	0,1W
3240	4822 051 20472	4K70	5%	0,1W
3241	4822 051 20102	1K00	5%	0,1W
3242	4822 051 20229	22R00	5%	0,1W
3243	4822 051 20101	100R00	5%	0,1W
3244	4822 051 20102	1K00	5%	0,1W
3251	4822 051 20103	10K00	5%	0,1W
3252	4822 051 20103	10K00	5%	0,1W
3253	4822 051 20472	4K70	5%	0,1W
3256	4822 051 20102	1K00	5%	0,1W
3301	4822 051 20153	15K00	5%	0,1W
3302	4822 051 20153	15K00	5%	0,1W
3308	4822 051 20103	10K00	5%	0,1W
3309	4822 051 20103	10K00	5%	0,1W
3310	4822 051 20223	22K00	5%	0,1W
3311	4822 051 20153	15K00	5%	0,1W
3314	4822 051 20103	10K00	5%	0,1W
3315	4822 051 20103	10K00	5%	0,1W
3316	4822 051 20223	22K00	5%	0,1W
3317	4822 051 20153	15K00	5%	0,1W
3351	4822 051 20103	10K00	5%	0,1W
3352	4822 051 20104	100K00	5%	0,1W
3353	4822 051 20103	10K00	5%	0,1W
3354	4822 051 20102	1K00	5%	0,1W
3355	4822 116 30426	4K7	3%	0,1W
3401	4822 051 20683	68K00	5%	0,1W
3402	4822 051 20223	22K00	5%	0,1W
3403	4822 051 20225	2M20	5%	0,1W
3404	4822 051 20104	100K00	5%	0,1W
3405	4822 051 20334	330K00	5%	0,1W
3406	4822 051 20221	220R00	5%	0,1W
3417	4822 051 20103	10K00	5%	0,1W
3418	4822 051 20103	10K00	5%	0,1W
3419	4822 051 20103	10K00	5%	0,1W
3420	4822 051 20183	18K00	5%	0,1W
3421	4822 051 20393	39K00	5%	0,1W
3422	4822 051 20103	10K00	5%	0,1W
3423	4822 051 20103	10K00	5%	0,1W
3424	4822 051 20393	39K00	5%	0,1W
3425	4822 051 20393	39K00	5%	0,1W
3426	4822 100 12071	EVNDXAA03B25		
3430	4822 051 20393	39K00	5%	0,1W
3431	4822 051 20103	10K00	5%	0,1W
3432	4822 051 20103	10K00	5%	0,1W
3433	4822 051 20332	3K30	5%	0,1W
3434	4822 051 20332	3K30	5%	0,1W
3435	4822 051 20561	560R00	5%	0,1W
3436	4822 051 20332	3K30	5%	0,1W
3437	4822 051 20683	68K00	5%	0,1W
3438	4822 051 20103	10K00	5%	0,1W
3439	4822 051 20224	220K00	5%	0,1W
3501	4822 051 20473	47K00	5%	0,1W
3502	4822 051 20473	47K00	5%	0,1W
3503	4822 051 20101	100R00	5%	0,1W

RESISTORS

3504	4822 100 11681	1K	30%	0,1W
3505	4822 051 20474	470K00	5%	0,1W
3506	4822 051 20333	33K00	5%	0,1W
3507	4822 051 20563	56K00	5%	0,1W
3508	4822 051 20103	10K00	5%	0,1W
3509	4822 051 20332	3K30	5%	0,1W
3511	4822 051 20473	47K00	5%	0,1W
3512	4822 051 20473	47K00	5%	0,1W
3513	4822 051 20101	100R00	5%	0,1W
3514	4822 100 11681	1K	30%	0,1W
3515	4822 051 20474	470K00	5%	0,1W
3516	4822 051 20333	33K00	5%	0,1W
3517	4822 051 20563	56K00	5%	0,1W
3518	4822 051 20103	10K00	5%	0,1W
3519	4822 051 20332	3K30	5%	0,1W
3520	4822 051 20101	100R00	5%	0,1W
3521	4822 051 20103	10K00	5%	0,1W
3522	4822 051 20223	22K00	5%	0,1W
3523	4822 051 20223	22K00	5%	0,1W
3524	4822 051 20104	100K00	5%	0,1W
3525	4822 051 20331	330R00	5%	0,1W
3526	4822 051 20101	100R00	5%	0,1W
3527	4822 051 20333	33K00	5%	0,1W
3540	4822 051 20223	22K00	5%	0,1W
3541	4822 051 20223	22K00	5%	0,1W
3548	4822 051 10183	18K00	2%	0,25W
3550	4822 051 20473	47K00	5%	0,1W
3552	4822 051 20183	18K00	5%	0,1W
3553	4822 051 20103	10K00	5%	0,1W
3554	4822 051 20183	18K00	5%	0,1W
3555	4822 051 20124	120K00	5%	0,1W
3601	4822 051 20103	10K00	5%	0,1W
3603	4822 051 20474	470K00	5%	0,1W
3604	4822 051 20154	150K00	5%	0,1W
3605	4822 051 20304	300K00	5%	0,1W
3606	4822 051 20104	100K00	5%	0,1W
3607	4822 051 20823	82K00	5%	0,1W
3608	4822 100 12071	EVNDXAA03B25		
3610	4822 051 20102	1K00	5%	0,1W
3612	4822 051 20391	390R00	5%	0,1W
3613	4822 051 20473	47K00	5%	0,1W
3614	4822 051 20182	1K80	5%	0,1W
3615	4822 051 20123	12K00	5%	0,1W
3616	4822 051 20109	10R00	5%	0,1W
3617	4822 051 20473	47K00	5%	0,1W
3619	4822 051 20104	100K00	5%	0,1W
3621	4822 051 20273	27K00	5%	0,1W
3622	4822 051 20824	820K00	5%	0,1W
3623	4822 051 20273	27K00	5%	0,1W
3624	4822 051 20474	470K00	5%	0,1W
3625	4822 051 20273	27K00	5%	0,1W
3626	4822 051 20104	100K00	5%	0,1W
3627	4822 051 20222	2K20	5%	0,1W
3628	4822 051 20224	220K00	5%	0,1W
3629	4822 051 20472	4K70	5%	0,1W
3630	4822 100 11683	2K	30%LIN	0,2W
3631	4822 051 20563	56K00	5%	0,1W
3632	4822 051 20563	56K00	5%	0,1W
3635	4822 051 20225	2M20	5%	0,1W
3636	4822 051 20225	2M20	5%	0,1W
3638	4822 051 20103	10K00	5%	0,1W

RESISTORS

3639	4822 051 20008	0R0	JUMP(0805)	
3641	4822 051 20473	47K00	5%	0,1W
3642	4822 051 20473	47K00	5%	0,1W
3660	4822 051 20472	4K70	5%	0,1W
3672	4822 051 20562	5K60	5%	0,1W
3673	4822 051 20562	5K60	5%	0,1W
3674	4822 051 20472	4K70	5%	0,1W
3701	4822 051 20103	10K00	5%	0,1W
3702	4822 051 20102	1K00	5%	0,1W
3706	4822 051 20224	220K00	5%	0,1W
3707	4822 116 52227	620E	5%	0,5W
3708	4822 116 52227	620E	5%	0,5W
3709	4822 116 52227	620E	5%	0,5W
3710	4822 051 20103	10K00	5%	0,1W
3713	4822 051 20222	2K20	5%	0,1W
3714	4822 051 20224	220K00	5%	0,1W
3715	4822 051 20224	220K00	5%	0,1W
3716	4822 051 20103	10K00	5%	0,1W
3717	4822 051 20104	100K00	5%	0,1W
3718	4822 051 20102	1K00	5%	0,1W
3719	4822 051 20393	39K00	5%	0,1W
3720	4822 051 20103	10K00	5%	0,1W
3721	4822 051 20123	12K00	5%	0,1W
3722	4822 051 20473	47K00	5%	0,1W
3723	4822 051 20104	100K00	5%	0,1W
3724	4822 051 20473	47K00	5%	0,1W
3725	4822 051 20224	220K00	5%	0,1W
3726	4822 051 20473	47K00	5%	0,1W
3727	4822 051 20473	47K00	5%	0,1W
3731	4822 051 20473	47K00	5%	0,1W
3732	4822 051 20103	10K00	5%	0,1W
3733	4822 051 20473	47K00	5%	0,1W
3734	4822 051 20153	15K00	5%	0,1W
3736	4822 051 20104	100K00	5%	0,1W
3737	4822 051 20473	47K00	5%	0,1W
3738	4822 051 20103	10K00	5%	0,1W
3739	4822 051 20103	10K00	5%	0,1W
3740	4822 051 20103	10K00	5%	0,1W
3741	4822 051 20104	100K00	5%	0,1W
3742	4822 051 20473	47K00	5%	0,1W
3743	4822 051 20104	100K00	5%	0,1W
3744	4822 051 20101	100R00	5%	0,1W
3745	4822 051 20473	47K00	5%	0,1W
3746	4822 051 20104	100K00	5%	0,1W
3751	4822 051 20102	1K00	5%	0,1W
3752	4822 051 20472	4K70	5%	0,1W
3753	4822 116 52227	620E	5%	0,5W
3754	4822 116 52227	620E	5%	0,5W
3755	4822 051 20103	10K00	5%	0,1W
3756	4822 051 20104	100K00	5%	0,1W
3757	4822 051 20104	100K00	5%	0,1W
3801	4822 116 30423	10K	20%	NTC
3802	4822 051 20222	2K20	5%	0,1W
3803	4822 051 20103	10K00	5%	0,1W
3804	4822 051 20103	10K00	5%	0,1W
3805	4822 051 20103	10K00	5%	0,1W
3806	4822 051 20103	10K00	5%	0,1W
3807	4822 051 20103	10K00	5%	0,1W
3808	4822 051 20153	15K00	5%	0,1W
3809	4822 051 20153	15K00	5%	0,1W
3810	4822 051 20153	15K00	5%	0,1W

RESISTORS

3811	4822 051 20153	15K00	5%	0,1W
3812	4822 051 20152	1K50	5%	0,1W
3813	4822 051 20152	1K50	5%	0,1W
3814	4822 051 20152	1K50	5%	0,1W
3816	4822 051 20153	15K00	5%	0,1W
3817	4822 051 20102	1K00	5%	0,1W
3818	4822 051 20152	1K50	5%	0,1W
3819	4822 051 20153	15K00	5%	0,1W
3820	4822 051 20103	10K00	5%	0,1W
3821	4822 051 20562	5K60	5%	0,1W
3822	4822 051 20152	1K50	5%	0,1W
3823	4822 051 20152	1K50	5%	0,1W
3824	4822 051 20152	1K50	5%	0,1W
3827	4822 051 20102	1K00	5%	0,1W
3828	4822 051 20152	1K50	5%	0,1W
3851	4822 051 20271	270R00	5%	0,1W
3852	4822 051 20271	270R00	5%	0,1W
3853	4822 051 20271	270R00	5%	0,1W
3901	4822 051 20102	1K00	5%	0,1W
3902	4822 051 20102	1K00	5%	0,1W
3903	4822 051 20478	4R70	5%	0,1W
3904	4822 051 20473	47K00	5%	0,1W
3905	4822 051 20222	2K20	5%	0,1W
3906	4822 051 20102	1K00	5%	0,1W
3908	4822 051 20224	220K00	5%	0,1W
3909	4822 051 20102	1K00	5%	0,1W
3910	4822 051 20102	1K00	5%	0,1W
3911	4822 051 20473	47K00	5%	0,1W
3912	4822 051 20224	220K00	5%	0,1W
3913	4822 051 20153	15K00	5%	0,1W
3915	4822 051 20101	100R00	5%	0,1W
3916	4822 051 20153	15K00	5%	0,1W
3917	4822 051 20103	10K00	5%	0,1W
3918	4822 051 20103	10K00	5%	0,1W
3919	4822 051 20153	15K00	5%	0,1W
3920	4822 051 20153	15K00	5%	0,1W
3921	4822 051 20153	15K00	5%	0,1W
3922	4822 051 20153	15K00	5%	0,1W
3923	4822 051 20102	1K00	5%	0,1W
3924	4822 051 20153	15K00	5%	0,1W
3925	4822 051 20822	8K20	5%	0,1W
3927	4822 051 20225	2M20	5%	0,1W
3928	4822 051 20822	8K20	5%	0,1W
3929	4822 051 20221	220R00	5%	0,1W
3930	4822 051 20103	10K00	5%	0,1W
3931	4822 051 20102	1K00	5%	0,1W
3932	4822 051 20153	15K00	5%	0,1W
3933	4822 051 20153	15K00	5%	0,1W
3934	4822 051 20102	1K00	5%	0,1W
3935	4822 051 20102	1K00	5%	0,1W
3936	4822 051 20103	10K00	5%	0,1W
3937	4822 051 20103	10K00	5%	0,1W
3938	4822 051 20153	15K00	5%	0,1W
3939	4822 051 20181	180R00	5%	0,1W
3951	4822 051 20153	15K00	5%	0,1W
3958	4822 051 20102	1K00	5%	0,1W

JUMPERS

4101
-- 4822 051 20008 0R00 JUMP(0805)
4908

COILS

5201	4822 152 20678	33UH
5202	4822 152 20677	10MUH
5203	4822 152 20677	10MUH
5205	4822 152 20678	33UH
5206	4822 152 20679	68UH
5207	4822 157 50975	1 MH
5210	4822 152 20683	28MUH ADJ.IND.
5211	4822 157 53575	3U3
5212	4822 157 70518	38MH
5227	4822 152 20679	68UH
5228	4822 152 20682	6.15UH
5231	4822 157 50975	1 MH
5232	4822 152 20677	10MUH
5251	4822 157 50975	1 MH
5252	4822 152 20678	33UH
5402	4822 157 50975	1 MH
5701	4822 157 53669	FILTER ASSY
5802	4822 242 81591	QUARZ 8.00MHZ
5905	4822 152 20677	10MUH
5906	4822 152 20677	10MUH
5909	4822 152 20677	10MUH
5910	4822 152 20677	10MUH

DIODS

6211	4822 130 81196	S5566B
6221	5322 130 80119	BBY40
6230	5322 130 34337	BAV99
6301	4822 130 30621	1N4148
6420	5322 130 34337	BAV99
6430	5322 130 34337	BAV99
6551	4822 130 30621	1N4148
6552	5322 130 31504	BZX79-C3V3
6601	4822 130 30621	1N4148
6602	4822 130 30621	1N4148
6704	4822 130 30621	1N4148
6705	4822 130 80751	1S1885 A
6706	4822 130 80751	1S1885 A
6712	5322 130 34331	BAV70
6713	4822 130 31983	BAT85
6714	4822 130 30621	1N4148
6715	4822 130 30621	1N4148
6716	4822 130 80954	BZV55-C5V6
6719	5322 130 34331	BAV70
6805	4822 130 82741	SLP144B-51
6871	4822 130 83074	BZV87
6901	4822 130 80954	BZV55-C5V6
6902	4822 130 80954	BZV55-C5V6
6903	4822 130 80954	BZV55-C5V6
6904	4822 130 30621	1N4148
6905	4822 130 80954	BZV55-C5V6
6907	4822 130 83493	BZV55-C10

TRANSISTORS AND IC's

7201	4822 209 72247	TEA6200/V2
7210	4822 130 42705	BC847
7211	4822 130 61233	BC857
7212	4822 130 42132	BC807
7222	4822 130 60686	BF513
7223	4822 130 42705	BC847
7230	4822 130 62495	2SK507F
7251	4822 209 30858	TSA6057/C1
7252	4822 130 42705	BC847
7301	4822 209 31129	TDA7313
7302	4822 209 83163	LM833N
7351	4822 209 31132	TDA7374V
7352	4822 209 31132	TDA7374V
7401	4822 209 83159	LA2000
7403	4822 209 31644	TDA7330
7419	4822 130 42705	BC847
7420	4822 209 32742	TL074IN
7501	4822 209 32775	BA3430S
7502	4822 130 42705	BC847
7535	4822 209 62772	HA12135A
7551	4822 130 42705	BC847
7601	4822 209 30859	TDA1591/V3
7602	4822 130 42705	BC847
7603	4822 130 42705	BC847
7604	4822 130 42705	BC847
7605	4822 130 42705	BC847
7606	4822 130 42705	BC847
7609	4822 130 42705	BC847
7701	4822 209 32687	TDA3602/N2
7703	4822 130 42705	BC847
7704	4822 130 42705	BC847
7705	4822 130 42705	BC847
7706	4822 130 61233	BC857
7711	4822 130 61233	BC857
7712	4822 130 42705	BC847
7714	4822 130 40995	BD438
7715	4822 130 61233	BC857
7716	4822 130 61233	BC857
7717	4822 130 42705	BC847
7718	4822 130 42705	BC847
7719	4822 130 42705	BC847
7721	4822 130 61233	BC857
7801	4822 209 32776	ST62T80
7803	4822 130 42705	BC847
7901	5322 209 11836	HEF4557
7902	4822 130 42705	BC847
7911	4822 209 32809	P83CE588EFB/002
7913	4822 130 42705	BC847
7914	4822 130 42705	BC847
7924	4822 130 42705	BC847
7925	4822 130 42705	BC847
7926	4822 130 42705	BC847
7927	4822 130 42705	BC847

Cassette Car Radio 22 DC 588/71
22 DC 588/71F

Service
Service
Service

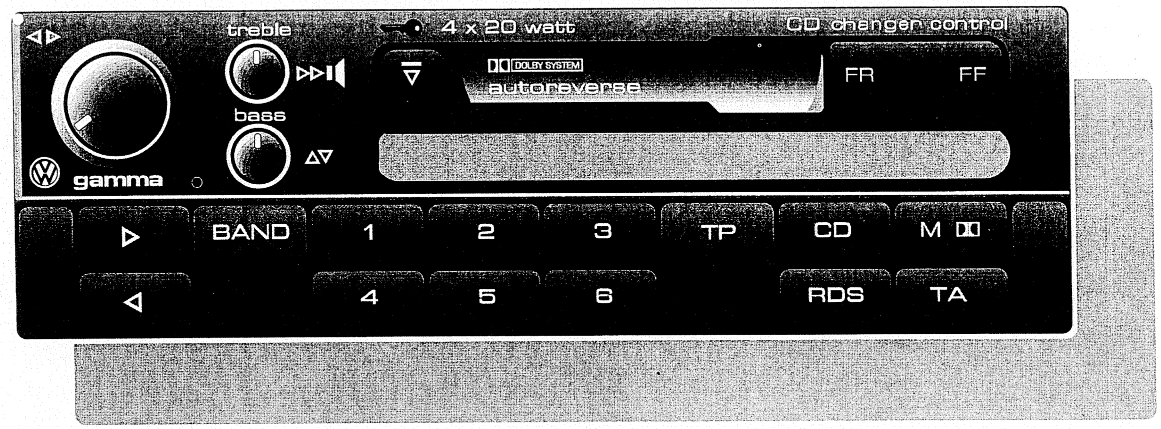
Supplement

For additional information refer to Service Manual 22DC588/71 (4822 725 23513) and to Service Newsletters from issue 1993-W 04 onwards

For repair instructions of the cassette deck see Service Manual SCA 4.4 (4822 725 23509)

Service Manual

12 V


treble
4 x 20 watt
CD changer control
DOLBY SYSTEM
autoreverse
FR
FF
bass
gamma
BAND
1
2
3
TP
CD
M
4
5
6
RDS
TA

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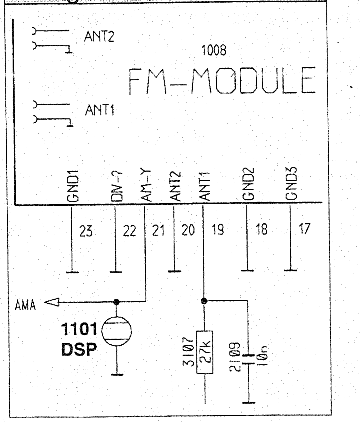
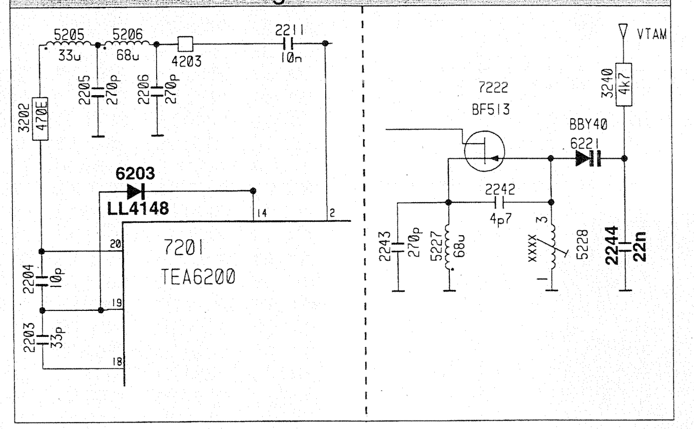
PHILIPS

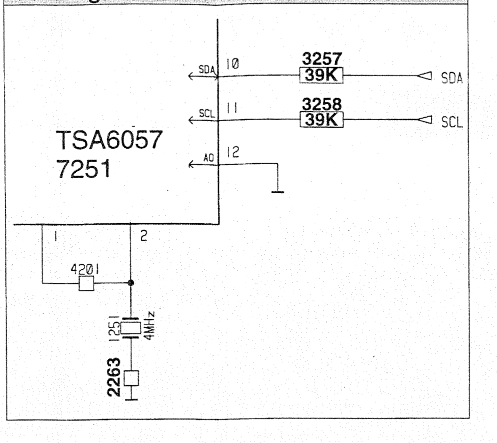
Changed FM MODUL circuit


ANT2
1008
FM-MODULE
ANT1
GND1
DN-?
AM-Y
ANT2
ANT1
GND2
GND3
23
22
21
20
19
18
17
AMA
1101
DSP
3107
27k
2109
10n

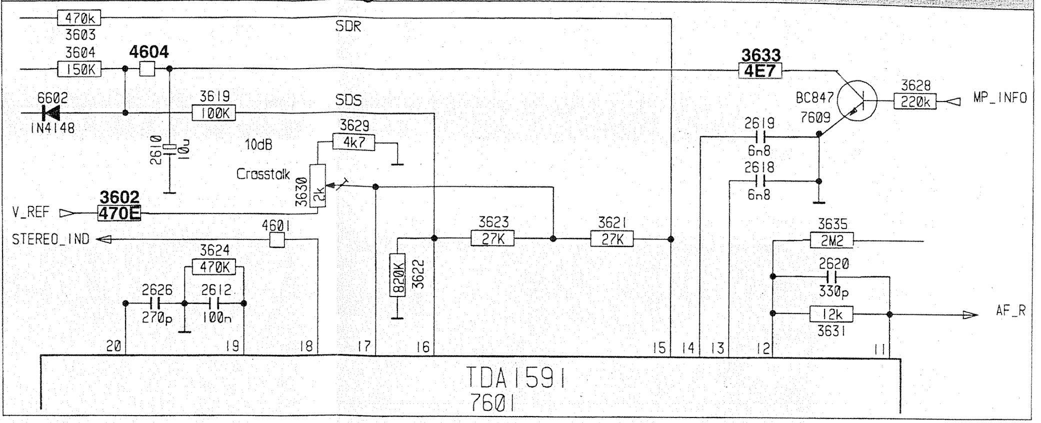
Changed AM PART circuit


5205
33u
5206
68u
4203
2211
10n
3202
470E
2205
270p
2206
270p
6203
LL4148
2204
10p
2203
33p
7201
TEA6200
7222
BF513
VTAM
3240
4k7
BBY40
6221
2242
4p7
2243
270p
5227
68u
XXXX
5228
2244
22n

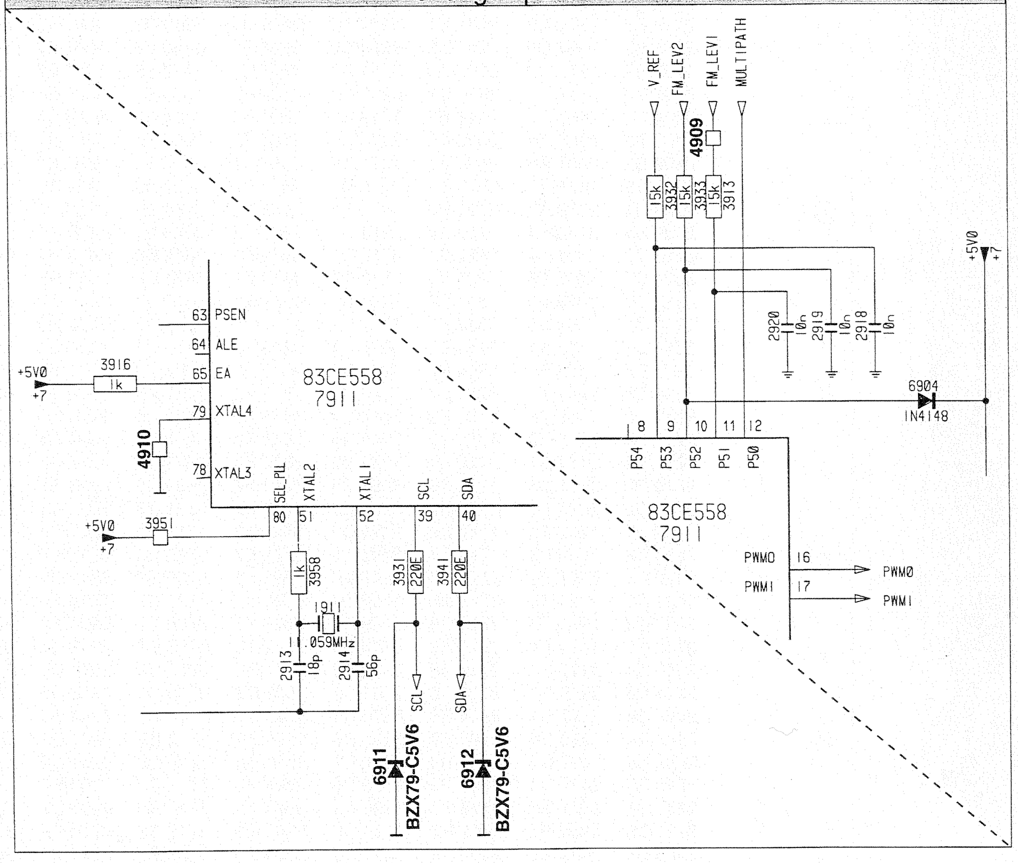
Changed PLL SYNTHESIZER circuit


TSA6057
7251
3257
39K
3258
39K
SDA
SCL
AD
10
11
12
4201
1251
4MHz
2263

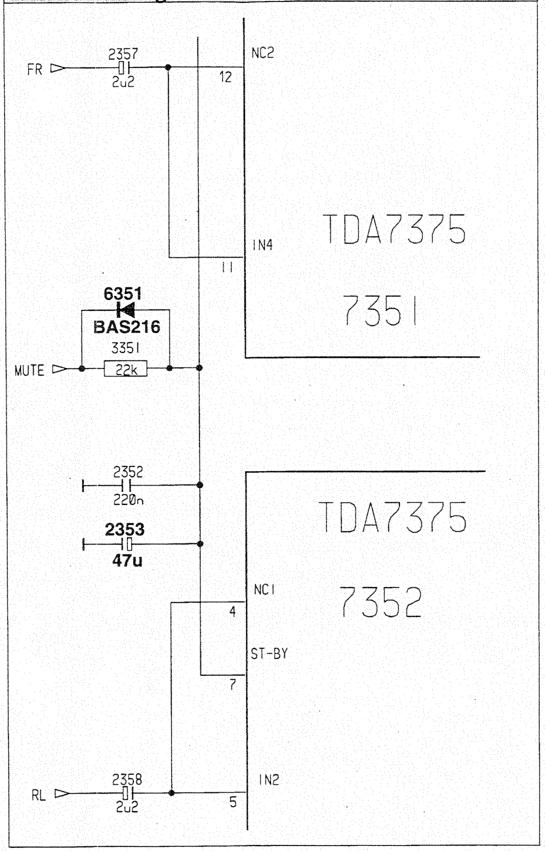
Changed STEREO DECODER circuit


470k
3603
3604
150K
4604
SDR
3633
4E7
6602
IN4148
3619
100K
SDS
3629
4k7
2610
10u
10dB
Crosstalk
3630
12k
BC847
7609
3628
220k
MP_INFO
2619
6n8
2618
6n8
3602
470E
V_REF
STEREO_IND
4601
3624
470K
2626
270p
2612
100n
3622
820K
3623
27K
3621
27K
3635
2M2
2620
330p
12k
3631
AF_R
TDA1591
7601

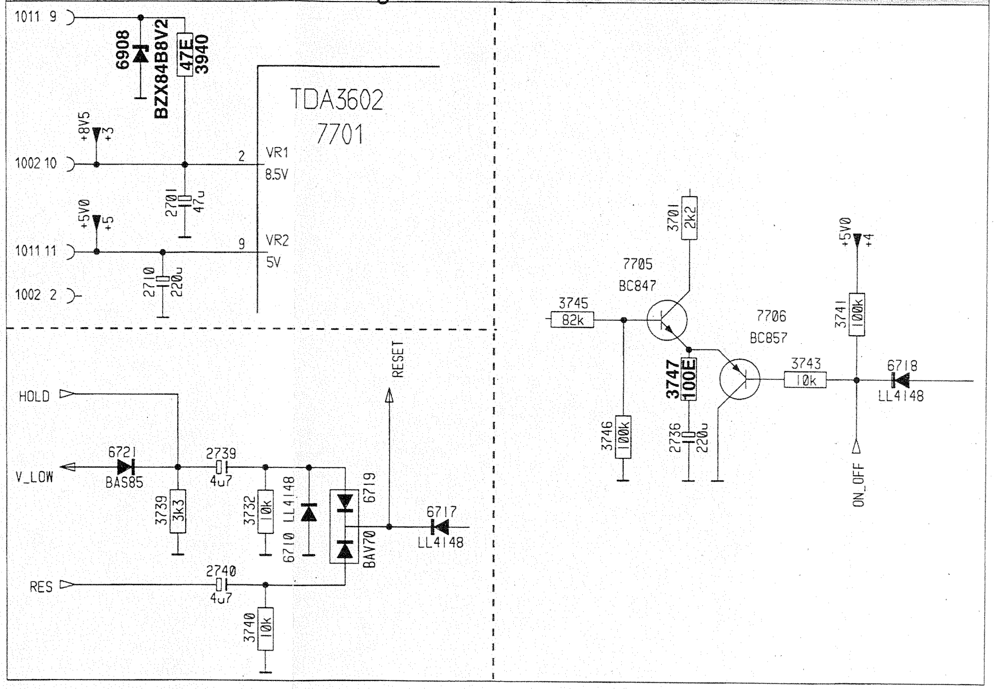
Changed µC circuit


V_REF
FM_LEV2
FM_LEV1
MULTIPATH
4909
3932
15k
3933
15k
3913
15k
2920
10n
2919
10n
2918
10n
+5V0
6904
IN4148
PSEN
ALE
EA
XTAL4
XTAL3
+5V0
3916
1k
4910
83CE558
7911
SEL_RL
XTAL2
XTAL1
SCL
SDA
3951
3958
1k
1911
11.059MHz
2913
18p
2914
56p
3931
220E
3941
220E
6911
BZX79-C5V6
6912
BZX79-C5V6
P54
P53
P52
P51
P50
PWM0
PWM1

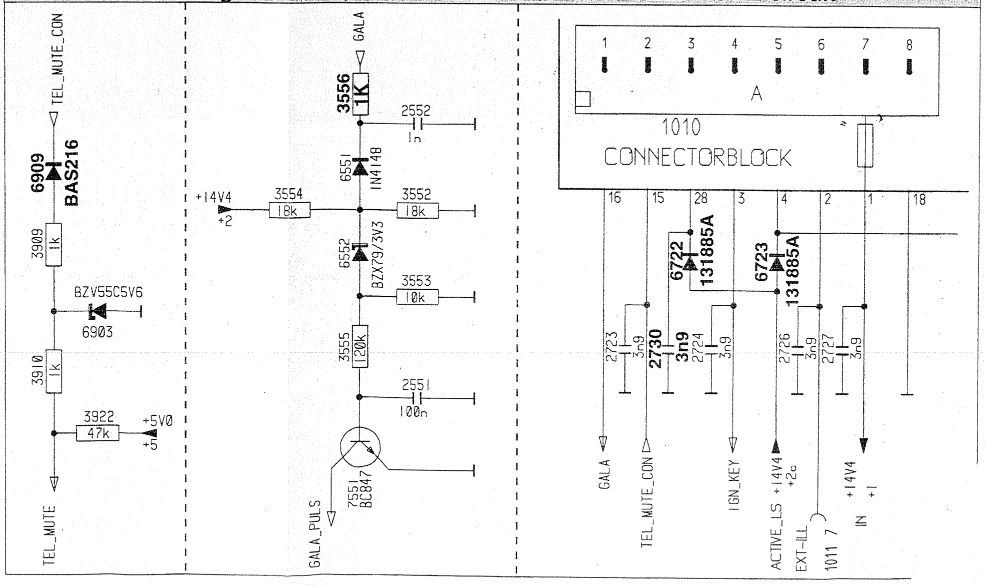
Changed POWER STAGE circuit


FR
2357
2u2
NC2
IN4
TDA7375
7351
6351
BAS216
3351
22k
MUTE
2352
220n
2353
47u
TDA7375
7352
NC1
ST-BY
RL
2358
2u2
IN2

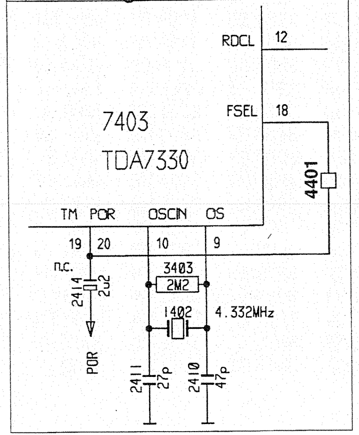
Changed POWER SUPPLY circuit


6908
BZX84B8V2
3940
47E
TDA3602
7701
+8V5
VR1
8.5V
2701
47u
+5V0
VR2
5V
2710
220u
RESET
HOLD
V_LOW
6721
BAS85
2739
4u7
3739
3k3
3732
10k
6710
LL4148
6719
BAV70
6717
LL4148
RES
2740
4u7
3740
10k
3701
2k2
7705
BC847
3745
82k
3747
100E
7706
BC857
+5V0
3741
100k
3743
10k
6718
LL4148
3746
100k
2736
220u
ON_OFF

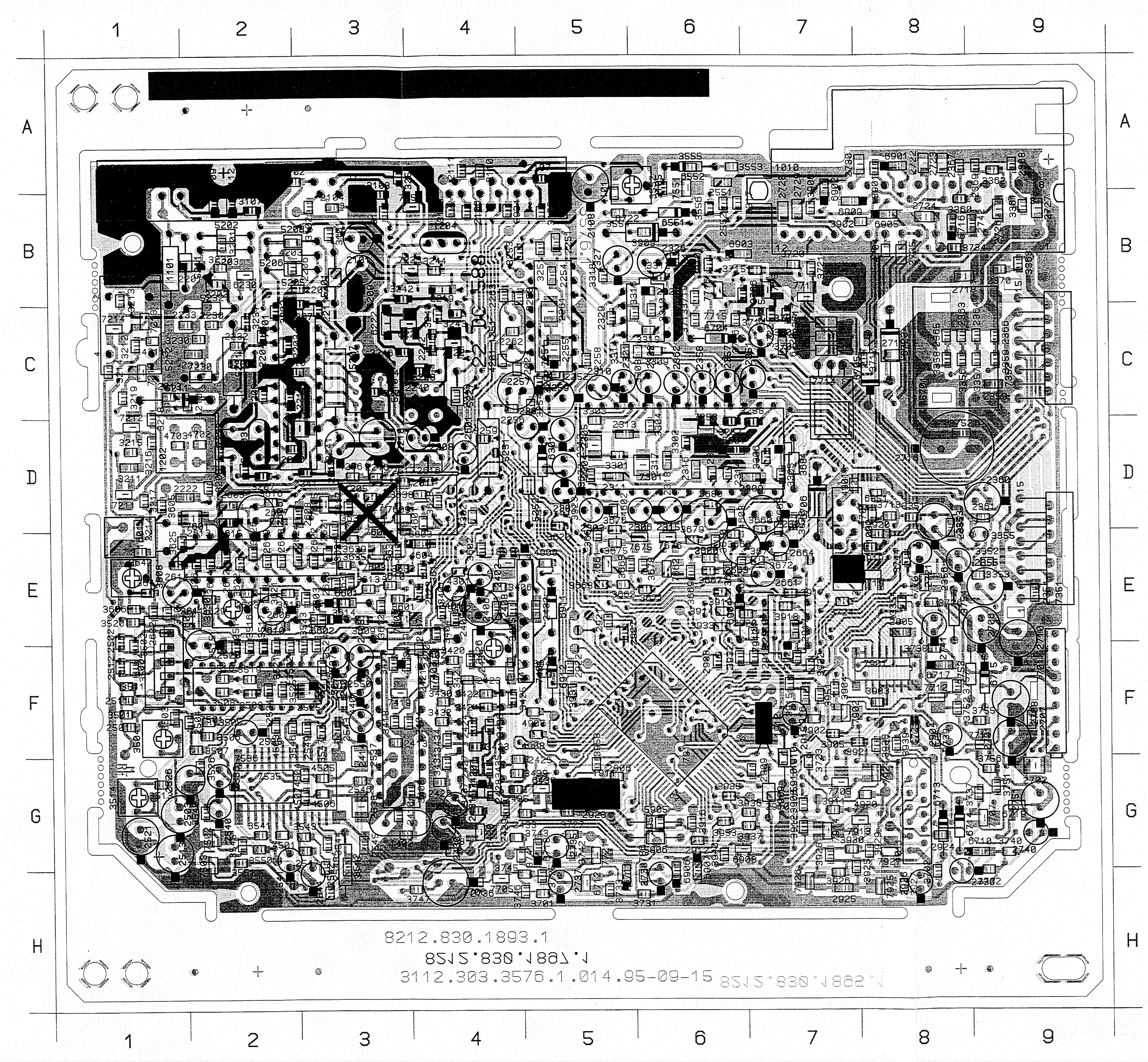
Changed CONNECTORBLOCK / GALA / TEL. MUTE circuit


TEL_MUTE_CON
6909
BAS216
3909
1k
BZV55C5V6
6903
3910
1k
3922
47k
+5V0
TEL_MUTE
GALA
3556
1K
2552
1n
6551
IN4148
+14V4
3554
18k
3552
18k
6552
BZX79/3V3
3553
10k
3555
120k
2551
100n
7551
BC847
GALA_PULS
1010
CONNECTORBLOCK
A
6722
131885A
6723
131885A
2723
3n9
2730
3n9
2724
3n9
2726
3n9
2727
3n9
GALA
TEL_MUTE_CON
IGN_KEY
ACTIVE_LS +14V4
EXT-ILL
+14V4
IN
1011

Changed RDS circuit


RDCL
12
FSEL
18
7403
TDA7330
4401
TM
POR
OSCIN
OS
2414
2u2
3403
2M2
1402
4.332MHz
2411
27p
2410
47p
POR

Differences to the circuits in Service Manual of 22DC588/71 are printed in bold letters.



[redacted]

1002 E7
1004 F1
1008 B3
1010 A8
1011 G8
1101 B1
1201 D4
1202 D2
1203 D2
1204 B4
1205 D3
1251 C4
1402 G3
1601 E1
1911 G5
1912 F7
2101 B3
2102 A3
2104 B3
2106 B4
2107 A5
2108 A5
2109 B2
2110 A4
2111 A4
2112 B2
2201 B2
2202 B2
2203 C2
2204 C2
2205 B3
2206 B2
2207 B3
2208 D4
2209 B3
2210 C3
2211 C3
2212 D3
2213 C1
2214 D1
2215 D3
2216 D3
2217 C2
2218 D3
2219 B4
2220 D2
2221 D2
2222 D2
2223 D2
2230 C2
2231 C2
2232 C2
2233 C2
2240 C4
2241 D3
2242 C4
2243 C4
2244 C4
2246 C3
2251 B5
2252 C5
2253 B5
2254 B5
2255 C5
2256 C4
2257 C4
2258 C5
2259 C5
2261 C5
2262 C4
2263 B4
2301 D5
2302 D5
2303 D5
2304 D5
2305 D5
2306 D6
2307 D7
2309 D7
2310 C5
2311 D5
2312 D5
2313 D5
2314 D6
2315 D6
2316 D6
2317 D6
2318 D6
2319 D6
2320 D6
2321 C5
2322 C6
2326 B6
2327 B5
2328 B6
2329 C5
2351 C7
2352 D8
2353 D8
2354 E9
2355 E9
2356 E8
2357 C6
2358 C6
2359 C9
2360 D9
2361 D9
2362 C6
2363 C8
2364 C9
2365 C8
2366 C9
2367 A8
2368 A9
2369 A9
2370 B9
2401 E4
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2403 F3
2404 F3
2405 E4
2406 E4
2407 F4
2408 E4
2409 F3
2410 G3
2411 G3
2412 F4
2413 F3
2414 F3
2420 F4
2421 F4
2423 F4
2424 F4
2425 G4
2426 G4
2427 G4
2428 G4
2429 G4
2430 G4
2431 G4
2432 E5
2433 G5
2434 F4
2435 G4
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2503 G1
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2512 F1
2513 G1
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2520 E2
2521 G1
2524 F2
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2536 G2
2537 F3
2538 G3
2540 G2
2541 G2
2542 H3
2543 F3
2544 H3
2545 G3
2546 G3
2547 G3
2548 G3
2549 F3
2550 F3
2551 A6
2552 B6
2601 D4
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2605 D2
2606 D2
2607 D2
2608 D3
2609 E2
2610 E2
2611 E1
2612 E2
2613 D2
2614 E1
2615 D2
2616 D4
2617 D3
2618 E2
2619 E2
2620 E3
2621 D3
2622 E3
2623 E4
2624 E3
2626 E2
2661 E7
2662 E6
2663 E6
2664 E7
2665 D7
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2702 G9
2706 E9
2707 F9
2708 F9
2710 E9
2715 C7
2716 D8
2718 B8
2719 C8
2721 E8
2722 A8
2723 A8
2724 B8
2725 B8
2726 B9
2727 B9
2728 B7
2729 B7
2730 A8
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2736 H4
2737 H5
2738 H6
2739 H8
2740 G9
2741 E8
2742 B9
2751 G9
2752 D8
2904 F8
2905 E8
2906 G5
2907 E5
2908 F6
2909 G7
2910 G7
2912 G6
2913 G5
2914 G5
2915 F7
2916 F7
2917 E7
2918 F7
2919 E7
2920 E7
2921 E5
2922 F5
2923 G5
2924 G8
2925 H7
2926 H8
3101 B3
3102 B3
3103 B4
3104 B3
3105 A6
3106 B5
3107 B2
3108 B3
3201 B2
3202 C2
3205 C3
3206 C2
3207 D2
3208 D2
3211 D1
3212 C1
3213 B1
3214 C1
3215 D1
3216 D1
3217 D1
3218 C1
3219 C1
3230 C2
3231 C2
3232 B2
3240 C4
3241 D3
3242 B3
3243 C4
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3252 C5
3253 B5
3254 C5
3256 A3
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3302 D6
3303 D5
3304 D6
3305 D7
3306 D7
3308 C6
3309 C6
3310 C6
3311 B6
3312 B6
3314 C5
3315 C6
3316 C6
3317 B6
3318 B5
3351 D8
3352 E9
3353 E9
3354 E8
3355 E9
3356 C8
3357 C9
3358 C8
3359 C9
3360 B8
3361 B9
3362 A9
3363 B9
3401 E4
3402 E4
3403 G4
3404 E4
3405 E4
3406 E4
3417 F3
3418 F3
3419 F3
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3423 F4
3424 F4
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3426 F4
3430 F4
3431 G4
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3433 G4
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3436 F4
3437 G4
3438 G4
3439 G4
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3545 G2
3546 F2
3547 F3
3548 G3
3550 G2
3551 G2
3552 A6
3553 A6
3554 B5
3555 A6
3556 B6
3601 E3
3602 E4
3603 E3
3604 E3
3605 D1
3606 E1
3607 E1
3608 E1
3609 E3
3610 E3
3612 E3
3613 E3
3614 E3
3615 E4
3616 D2
3617 D3
3619 E2
3620 D5
3621 E2
3622 E2
3623 E2
3624 E2
3625 E1
3626 E2
3627 D3
3628 D4
3629 E2
3630 E2
3631 E3
3632 D3
3633 E3
3634 E3
3635 E3
3636 E3
3638 D4
3639 E3
3641 E1
3642 E1
3660 D7
3661 E6
3662 E5
3663 E5
3664 E5
3665 E5
3666 E6
3667 E6
3668 E6
3669 E6
3670 E6
3671 E6
3672 E7
3673 D7
3674 E7
3675 E5
3676 D5
3677 D5
3678 E6
3679 E6
3680 D6
3681 D7
3701 H5
3702 H8
3706 B7
3707 C7
3708 C7
3709 C7
3710 C8
3713 C6
3714 C7
3715 B7
3716 C6
3717 C7
3718 D8
3719 B6
3720 B7
3721 B7
3722 C7
3723 G7
3724 E7
3725 H5
3726 E8
3727 G5
3731 H6
3732 H9
3733 H5
3734 B8
3736 H6
3737 G9
3738 F8
3739 F8
3740 G9
3741 G4
3742 G5
3743 G4
3744 E8
3745 H5
3746 H5
3747 H4
3751 G9
3752 F8
3753 F8
3754 E8
3755 F9
3756 G9
3757 F8
3901 A8
3902 B8
3903 F8
3904 F7
3905 F7
3906 B7
3908 G7
3909 B6
3910 B6
3911 G7
3912 G7
3913 E6
3914 E6
3915 F7
3916 G6
3917 E7
3918 E7
3919 E8
3920 E8
3921 F7
3922 F7
3923 D5
3924 F7
3925 G7
3926 H7
3927 H8
3928 G7
3929 G8
3930 G7
3931 F5
3932 F6
3933 E6
3934 B4
3935 G6
3936 G7
3937 G7
3938 F8
3939 F8
3940 G6
3941 F5
3951 F7
3952 G6
3953 G6
3958 G5
4101 B5
4201 C4
4202 C4
4203 B2
4206 D3
4210 C2
4211 C1
4301 E4
4302 D4
4401 F3
4501 G2
4503 F2
4504 G3
4505 G3
4506 G3
4507 G3
4601 D4
4602 D5
4603 D6
4604 E4
4701 D8
4702 D2
4703 D1
4704 B8
4901 D7
4902 F7
4907 F5
4908 F5
4909 E5
4910 G7
4920 G8
5201 B3
5202 B2
5203 B2
5205 B2
5206 B2
5207 C3
5208 B2
5210 C3
5211 B2
5212 C1
5227 C4
5228 C4
5231 C2
5232 C2
5251 D4
5252 D5
5402 E4
5701 C8
5905 G6
5906 G6
5909 G7
5910 G7
6203 C2
6211 C1
6221 C4
6222 C3
6230 B2
6301 D5
6351 D8
6420 G4
6430 G5
6551 B6
6552 A6
6601 E3
6602 E3
6603 E4
6661 D6
6704 C6
6705 C8
6706 D7
6710 G9
6711 H5
6712 H5
6713 G8
6714 G8
6715 F9
6716 B8
6717 F8
6718 G5
6719 G9
6720 C7
6721 F8
6722 B6
6723 C8
6901 A8
6902 A7
6903 B7
6904 E6
6905 B8
6906 H6
6907 H6
6908 G6
6909 B7
6910 E4
6911 E5
6912 F5
7201 C3
7210 C1
7211 D1
7212 D1
7213 C1
7214 C1
7222 C4
7223 B4
7230 C2
7251 C5
7252 B4
7253 D6
7301 D6
7302 C6
7351 E9
7352 C9
7401 E5
7403 F3
7419 F3
7420 F4
7501 F2
7502 G2
7503 G2
7535 G2
7536 G2
7551 A6
7601 E2
7602 E3
7603 E3
7604 E2
7605 D3
7606 D3
7609 D3
7661 E5
7662 E6
7675 E6
7676 E6
7701 F9
7703 G7
7704 E8
7705 H4
7706 H4
7707 G9
7711 F9
7712 F8
7714 C7
7715 C6
7716 B6
7717 B7
7718 B7
7719 E8
7721 G5
7901 F8
7902 F7
7911 F6
7912 E7
7913 G8
7914 G7
7924 G8
7925 H8
7926 H7
7927 G8

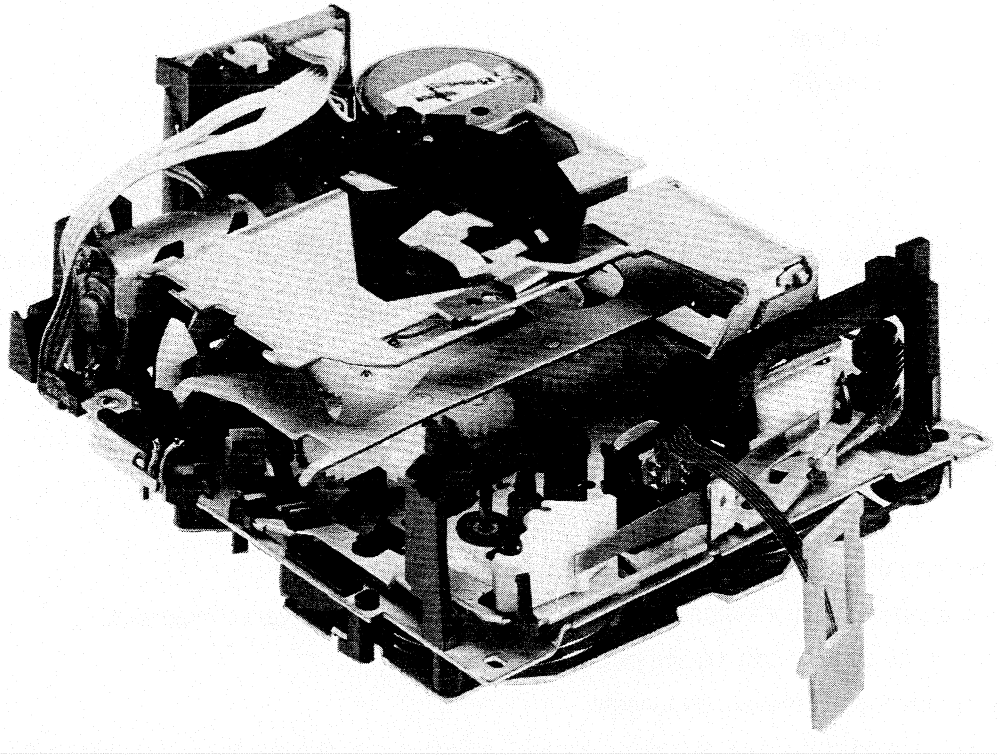
Car cassette deck SCA

Version 4.4

Service
Service
Service

Service Manual

12 V ⊖—⏚



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MECHANICAL SPECIFICATION

Operating positions:	Any position from horizontal to 45° standing vertically on the rear side.
Operating temperature:	-20°C to +70°C
Tape speed:	4,76 cm/sec
Wow and flutter:	< 0,5% unweighted < 0,3% weighted
Winding time:	
Test tape: RCA 118 (C60)	< 110 sec
Eject and loading time:	< 2 sec

ELECTRICAL SPECIFICATION

Voltage:	min 10,6 V max 16,0 V
Current - playback:	200 mA
Current - fast wind:	150 mA
Current - eject, standby:	100 µA
Hold in voltage:	8,0 V
Capstan motor:	14,4 V
Servo motor:	2 V DC Play 11,5 V DC Fast, Servo
Playback Crosstalk	
ch. 1 - 2 / 3 - 4	> 36 dB
ch. 2 - 3	> 46 dB

FEATURES

The SCA-4.4 tape deck is usable in several sets. Most of the control functions depend on the hard- and software-configuration of the set in which the deck is installed.
The set µC can control soft eject, emergency eject, standby mode, reverse function, MSS, ME/FE and DOLBY indication.
Some versions of the deck could be equipped with a groved head and/or a preamplifier circuit.

HANDLING AND DEMOUNTING INSTRUCTIONS

GENERAL

- Protect the tape deck against ESD !
- Plastic catches and snap connections must be released careful with screwdriver or tweezers.
- Cables must be laid in the defined cable guidings after mounting.
- For lubrication see indications in the exploded view.
- To clean tape transport and head only use moist cleaning tapes or piece of cloth, take care that no fluid (alcohol) drops into the bearing.
- For transport lift/carrier assy must be in eject position, do not carry the deck by touching the lift/carrier.
- Use a screwdriver 2,5 mm with insulated shaft for adjusting drift.
- Screw the deck into the set in order: Front right, front left, rear left, rear right.

DEMOUNTING

1. Carrier/lift (44)
1.1 Lift in eject position - put leg of eject spring (12) into mounting position acc. fig. 8 and fig. 2 - J
1.2 Lift in play position - unclamp cassette holder (49) from eject lever (48) with a left-upwards motion acc. fig.1-B
1.3 Lift in eject position - push plastic hook (fig.1-D) and pull out eject lever, remember position of ejector spring (55) and switching pin (54) for re-assembly later on
1.4 Release fixation lever (fig.1-F) by clicking out in left direction and then turn to the right
1.5 Lift in mid position - take out carrier and lift by releasing plastic hooks at the left (fig.1-G)

2. Head support
2.1 Take out carrier/lift according 1.
2.2 Remove head carrier spring (37)
2.3 Turn head support fixation lever acc. fig.3-A
2.4 Position pin of switching lever (20) to max. left point, see fig.3-detail I
2.5 Release plastic snapper (fig.3-H) and take out head support assembly
!!! TAKE CARE NOT TO BENT THE HEAD CARRIER !!!
2.6 Press plastic fixation (fig.3-detail E,F) and take out magnetic head
2.7 Push pressure spring (27) acc. fig.3-D and move it out
2.8 Release plastic hooks (fig.3-B,C) to pull pinch rollers (45+68) out
2.9 Take off anchor spring (13), rotate anchor (2) 90°degrees to take it out (fig.4-A,B,C)

3. Capstan motor (32)
Remove belt (30) from driving wheel, desolder connection cables, unscrew the two torx screws at the bottom of chassis and take out capstan motor
!!! TAKE CARE OF CORRECT AND UNTWISTED MOUNTING OF THE BELT !!!

4. Servo motor (14)
Desolder connection cables and lever up motor out of its clamps (fig.2-F,G)

5. Clutch assy (57-59)
5.1 Remove servo motor acc. 4.
5.2 Cut disk (65) and remove it (must be renewed)
5.3 Pull clutch from the axle (fig.2-H,I)

6. Anchor holder (8) and magnet double (1)
6.1 Desolder cables of magnet
6.2 Swivel anchor holder counter-clockwise and press it off applying force near the pivoting point
6.3 Release plastic clamps of magnet holder and press magnet out from top of the chassis (fig.4-E)

7. Driving belt (30), flywheels (23) and bearings (70)
7.1 Release pivot plate (35) by turning the plastic hooks acc.fig.5-A,B
7.2 Remove pivot plate and driving belt
7.3 Pull out flywheels
7.4 Press bearings out of plastic housings from top side of chassis plate, use a plastic tool with diameter 4mm in order not to damage the housings
7.5 After mounting new flywheels, bearings or pivot plate you have to test wow and flutter because every deck is adjusted individual for these components. If the values of wow and flutter are out of specification, you have to exchange complete deck !
7.6 Degrease capstan axis after re-mounting the flywheels

8. Connection wheel (5), take up wheels (6), backtension springs (69)
8.1 Take out carrier/lift acc. 1.
8.2 Lever up connection wheel from axle (must be renewed)
8.3 Cut disks (65) and remove them (must be renewed)
8.4 Unclamp and pull up wheels with puller (fig.2-A,B)
8.5 Take out backtension springs

9. ME/CR Switch (60)
9.1 Desolder connection cables
9.2 Push with a small pin through the hole at the bottom of the chassis, directly under the switch

10. ON/OFF Switch (26)
10.1 Desolder connection cables
10.2 Lever up switch or push with a small pin through the hole at the bottom of the chassis, directly under the switch if servo motor and clutch were removed previously

11. Control pins (16), gear lever (17), play reverse lever (18)
11.1 Remove flywheels acc. 7
11.2 Remove play reverse lever
11.3 Put control pins into mounting position acc. fig.6-D,E
11.4 Take out gear lever
11.5 Pull out control pins

12. Switching lever (20), swivel wheel assembly (7,15,43)
12.1 Release spring (53) from black plastic pin
12.2 Turn switching lever acc. fig.7-A
12.3 Lever up switching lever from axle
12.4 Remove connection wheel acc. 8
12.5 Take out swivel wheel assembly

13. Switching pin (54), transport rod (25), latch (21)
13.1 Remove ON/OFF Switch acc. 10
13.2 Lever up switching pin from axle
13.3 Remove switching lever acc. 12
13.4 Move out transport rod and latch

TOOLS REQUIRED

Test cassette SBC 420	4822 397 30071
Test cassette SBC 419	4822 397 30069
Friction test cassette	4822 395 30054
Puller for clutch (fig.2)	4822 395 60039

ADJUSTMENTS

TORQUE OF REELS (FRICTION)

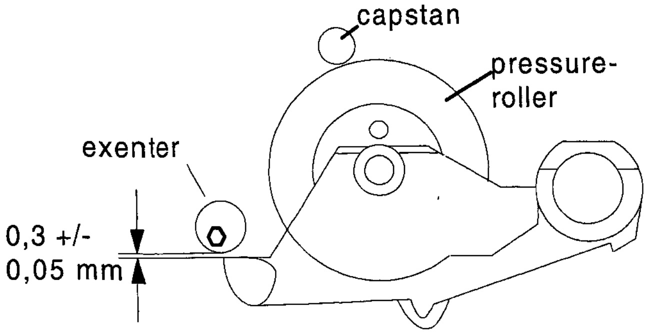
Adjust potmeter pos. 3409 until friction test cassette shows 9,5 +/- 1,5 mNm in NOR direction (after 2 minutes) and 8,5 +/- 1,5 mNm in REV direction. Backtension must be 0,3 to 0,7 mNm.
If values deviate check lubrication, clutch, take up wheels and backtension springs.

WOW AND FLUTTER, TAPE SPEED

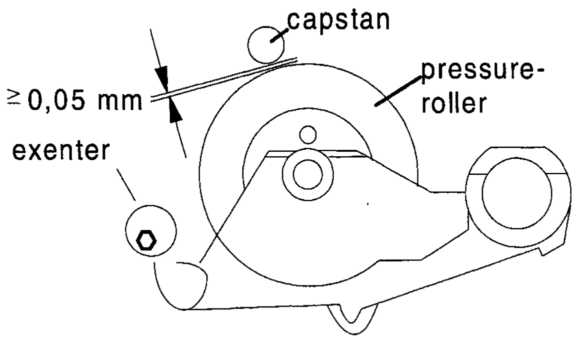
Connect wow and flutter meter to loudspeaker outputs and play the 3150 Hz signal track of test cassette SBC 420. Value should be max. 0,5% (unweighted).
If value deviates check motors, pressure rollers, flywheels, belt, pulley and backtension springs.
Tape speed can be adjusted with motor potentiometer A (see fig.8). Use a screwdriver with insulated shaft !

PRESSURE ROLLER / CAPSTAN (see figures below)

Adjust clearance play-NOR position between pressure roller and stop head carrier



Adjust clearance FFW position between pressure roller and capstan



EJECTOR 48, HOLDER 49, LIFT 44

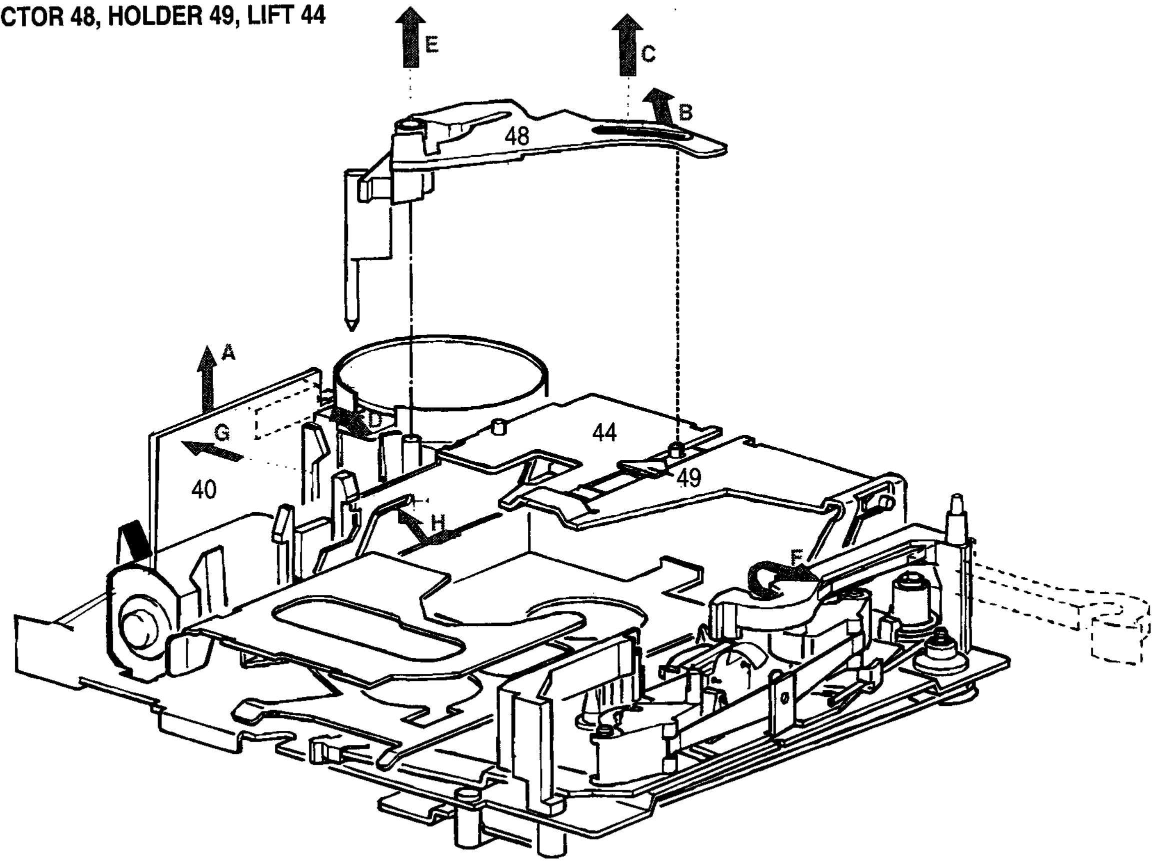

E
C
B
48
A
D
G
44
49
40
H
F

Fig. 1

CLUTCH 59, SWITCH 60, GEAR WHEEL 5, CARRIER 6

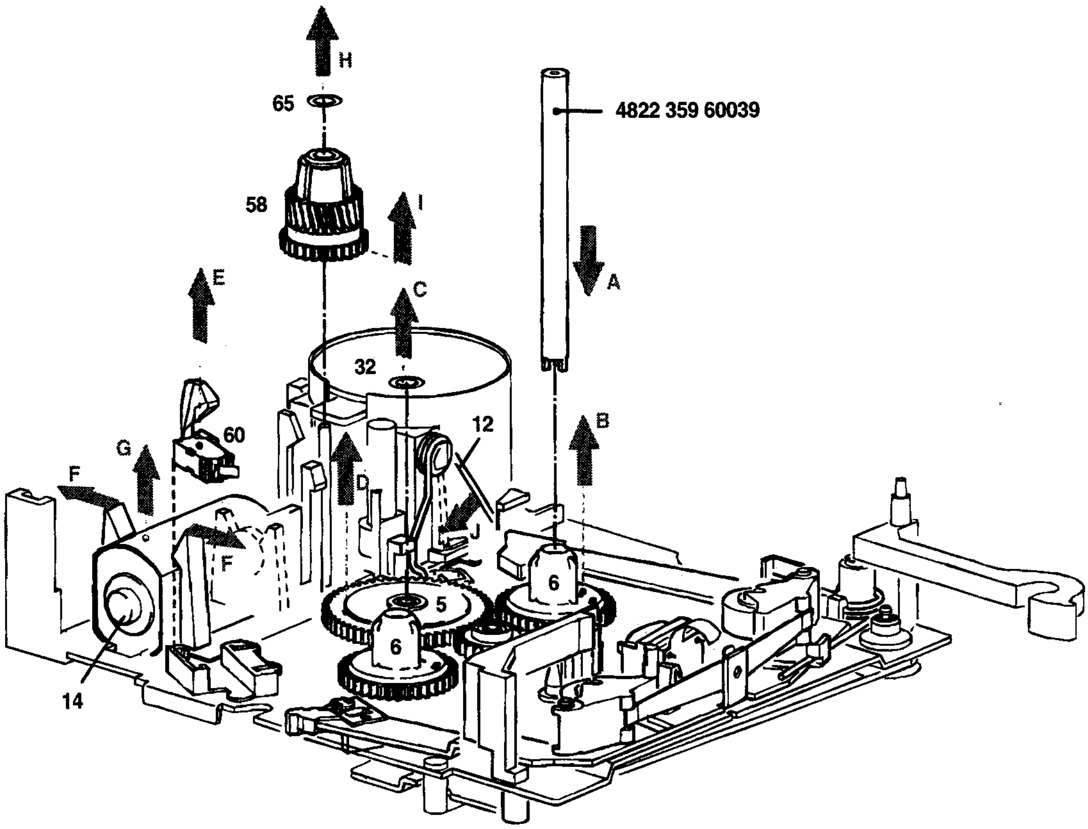

H
65
4822 359 60039
58
I
A
E
C
32
60
G
12
B
F
D
J
F
5
6
6
14

Fig. 2

PRESSURE ROLLER 45, HEAD BRACKET 33, HEAD 34

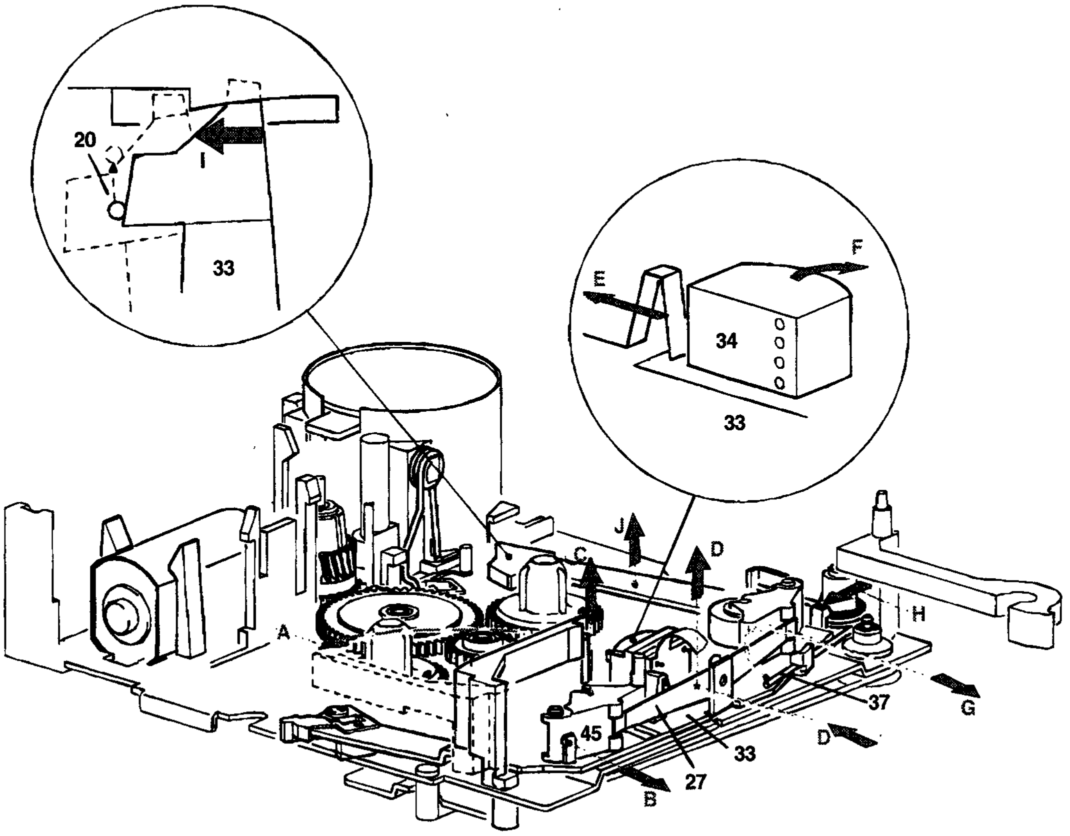

20
I
33
F
E
34
33
J
C
D
A
H
37
G
D
45
33
27
B

Fig. 3

ANCHOR 3/5, RELAY 1

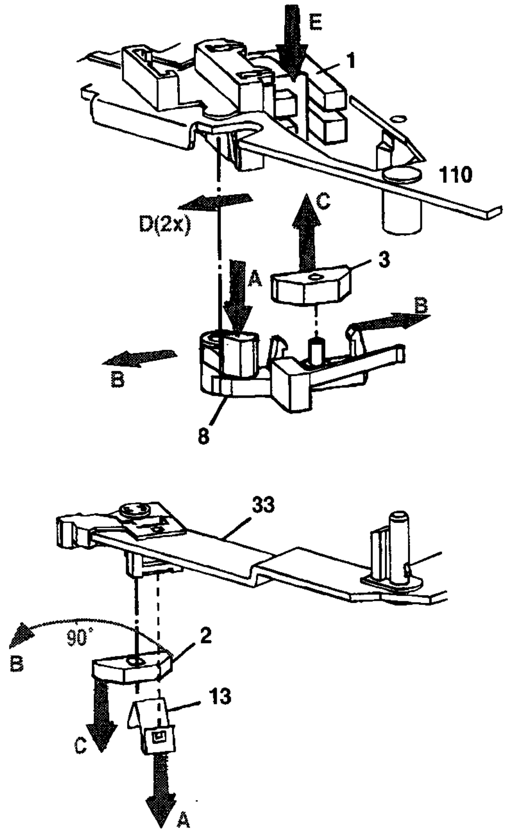

E
1
110
D(2x)
C
A
3
B
B
8
33
90°
B
2
13
C
A

Fig. 4

FLYWHEEL 23, BELT 30

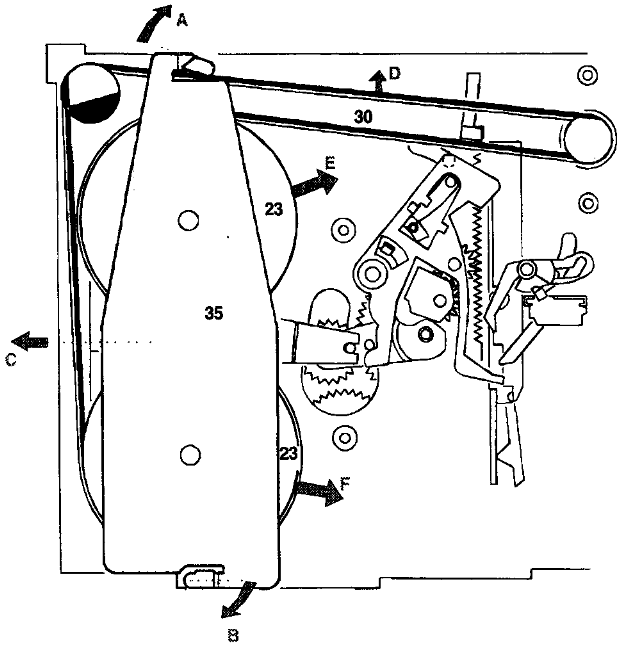

A
D
30
E
23
35
C
23
F
B

Fig. 5

SEGMENT 16, BRACKET 17, BEARING 70

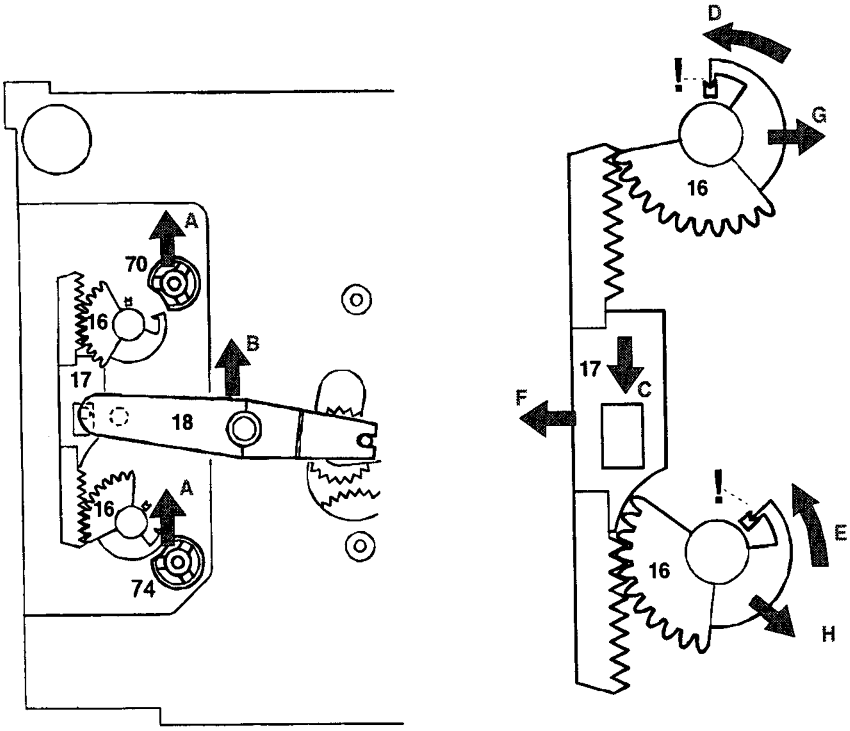

A
70
16
B
17
18
16
A
74
D
!
G
16
17
C
F
!
E
16
H

Fig. 6

SWITCH 26, SWIVEL GEAR 7, LEVER 20

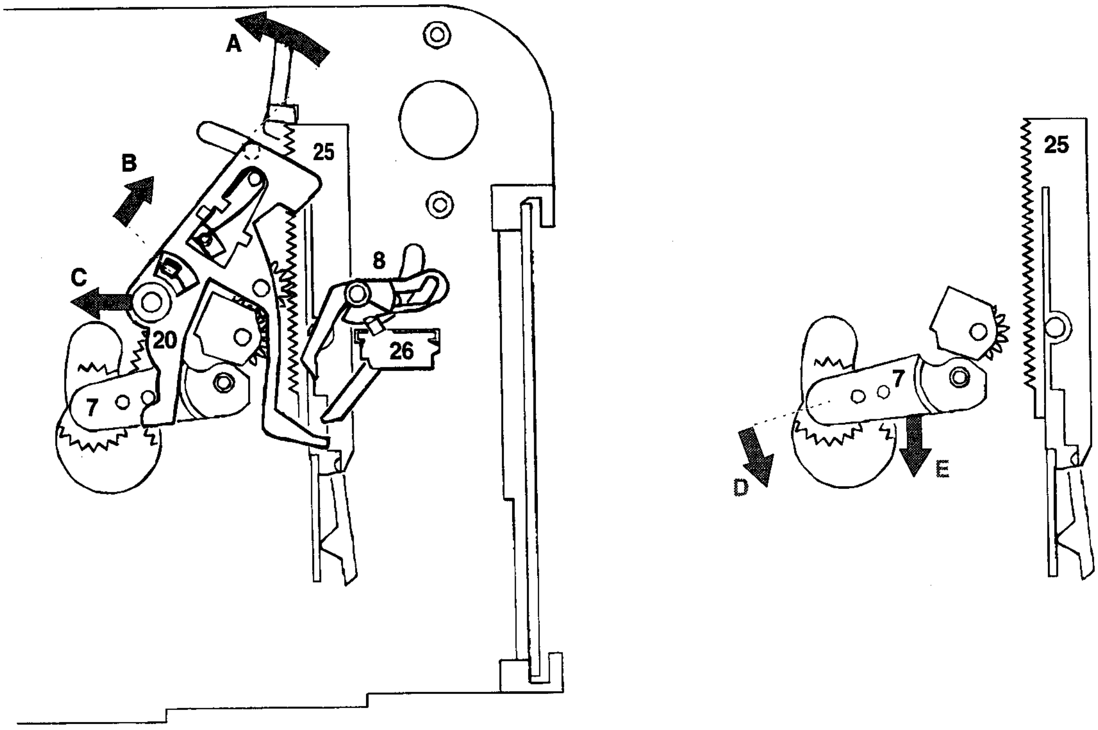

A
25
B
8
C
20
26
7
25
7
D
E

Fig. 7

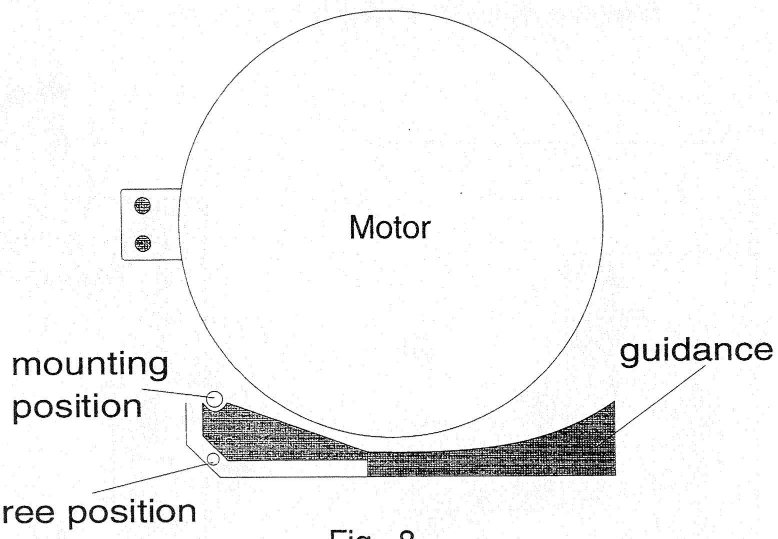
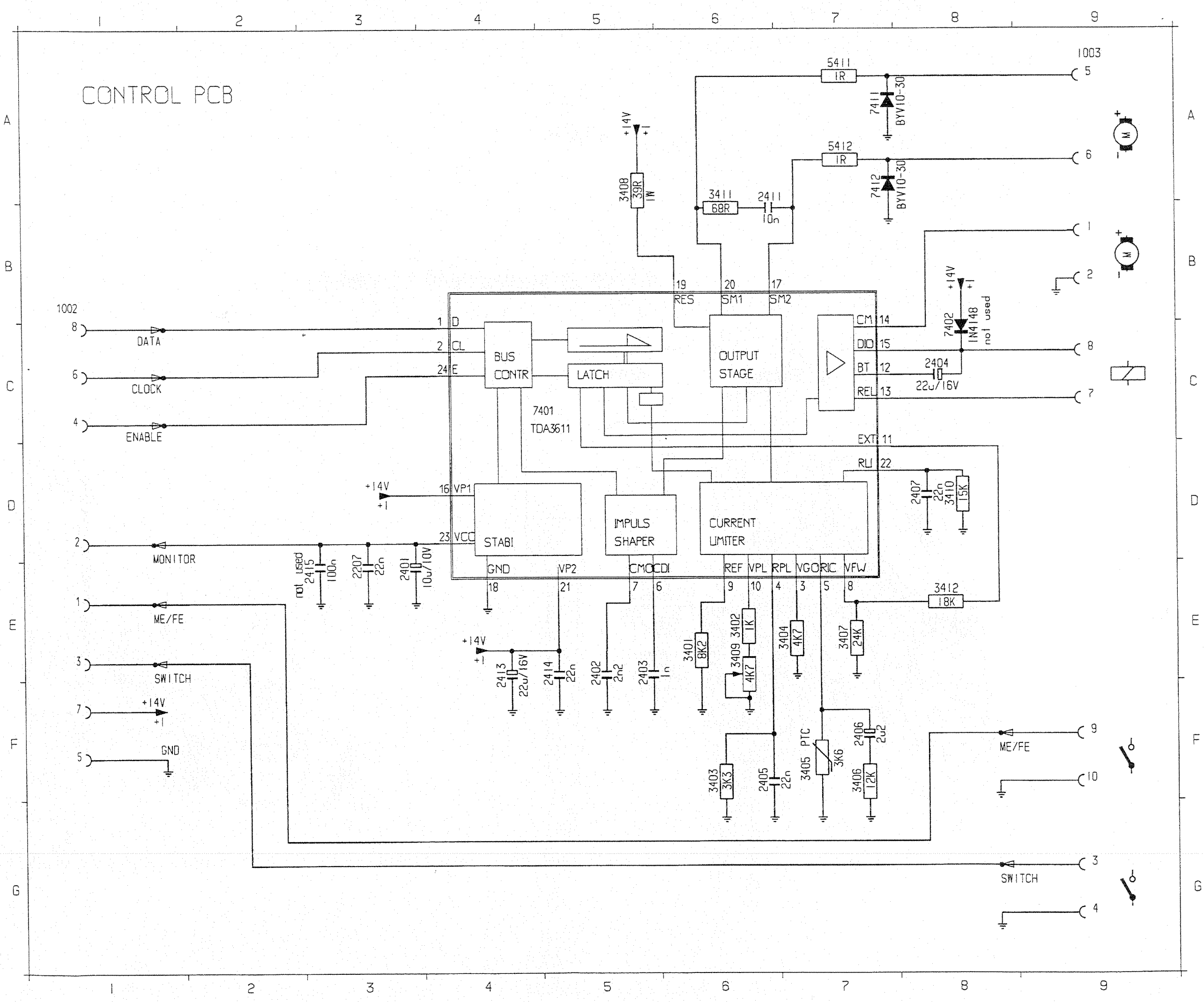

Motor
mounting position
guidance
free position

Fig. 8

1002	B 1	2402	E 5	2406	F 7	2414	E 5	3403	F 6	3407	E 7	3411	A 6	7401	C 4
1003	A 9	2403	E 5	2407	D 8	2415	E 3	3404	E 7	3408	A 5	3412	E 8	7402	C 8
2207	E 3	2404	C 8	2411	A 6	3401	E 6	3405	F 7	3409	E 6	5411	A 7	7411	A 7
2401	E 3	2405	F 6	2413	E 4	3402	E 6	3406	F 7	3410	D 8	5412	A 7	7412	A 7


CONTROL PCB
1 2 3 4 5 6 7 8 9
A B C D E F G
1002
DATA
CLOCK
ENABLE
MONITOR
ME/FE
SWITCH
+14V
GND
1003
5411 IR
5412 IR
7411 BYV10-30
7412 BYV10-30
3408 39R 1W
3411 68R
2411 10n
RES SM1 SM2
BUS CONTR
LATCH
OUTPUT STAGE
7401 TDA3611
CM DID BT REL
EXT RLI
VP1 VCC
STABI
IMPULS SHAPER
CURRENT LIMITER
GND VP2 CMO CDI REF VPL RPL VGO RIC VFW
7402 1N4148 not used
2404 22u/16V
2407 22n
3410 15K
3412 18K
2415 100n not used
2207 22n
2401 10u/10V
2413 22u/16V
2414 22n
2402 2n2
2403 1n
3401 8K2
3402 1K
3409 4K7
3404 4K7
3407 24K
3403 3K3
2405 22n
3405 PTC 3K6
2406 2u2
3406 12K
ME/FE
SWITCH

MEASUREMENTS ON CONTROL PCB

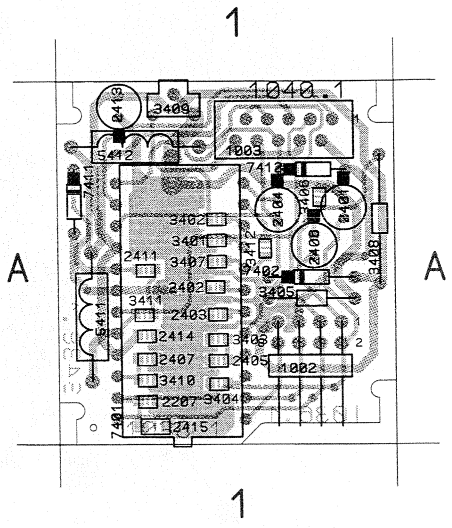
ME/FE: 0,0 V (FE) / 5,0 V (ME/CR)
ON/OFF: 0,0 V (ON) / 5,0 V (OFF)

Pos. 7401 TDA 3611

1: 5,0 V
2: 5,0 V
3: 0,7 V / 0,0 V (Sb)
4: 0,8 V (PN) / 0,9 V (PR) / 0,3 V (W) / 0,0 V (Sb)
5: 0,8 V (PN) / 1,0 V (PR) / 0,4 V (W) / 0,0 V (Sb) / 0,1 V (TA)
6: 0,8 V (PN) / 1,0 V (PR) / 0,4 V (W) / 0,0 V (Sb) / 0,1 V (TA)
7: 0,7 V (P) / 1,8 V (W) / 0,0 V (Sb) / 0,6 V (TA)
8: 3,4 V / 0,0 V (Sb)
9: 1,2 V / 0,0 V (Sb)
10: 0,5 V / 0,0 V (Sb)
11: 3,4 V / 0,0 V (Sb)
12: 12,0 V
13: 0,5 V / 12,0 V (Sb)
14: 0,0 V / 11,5 V (P)
15: 11,5 V / 12,0 V (Sb)
16: 12,0 V
17: 0,1 V (PN) / 2,4 V (PR) / 0,0 V (WN) / 12,0 V (WR) / 0,0 V (Sb)
18: GND
19: 12,0 V / 8,5 V (P)
20: 2,4 V (PN) / 0,1 V (PR) / 12,0 V (WN) / 0,0 V (WR) / 0,0 V (Sb)
21: 12,0 V
22: 3,6 V (P) / 1,3 V (W) / 0,0 V (Sb)
23: 5,0 V
24: 5,0 V
All values measured DC - GND

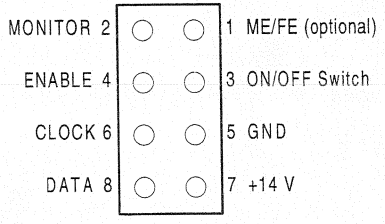
(P) = Play mode both directions
(W) = Wind mode both directions
(PN) = Play NOR direction
(PR) = Play REV direction
(WN) = Wind NOR direction
(WR) = Wind REV direction
(Sb) = Standby
(TA) = Traffic anouncement

1002 A 1	2413 A 1	3409 A 1
1003 A 1	2414 A 1	3410 A 1
2207 A 1	2415 A 1	3411 A 1
2401 A 1	3401 A 1	3412 A 1
2402 A 1	3402 A 1	5411 A 1
2403 A 1	3403 A 1	5412 A 1
2404 A 1	3404 A 1	7401 A 1
2405 A 1	3405 A 1	7402 A 1
2406 A 1	3406 A 1	7411 A 1
2407 A 1	3407 A 1	7412 A 1
2411 A 1	3408 A 1	

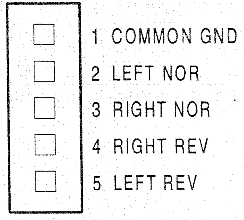

1
A
A
1
1040
2413
3409
5412
1003
7411
7412
2406
2404
2401
3402
3401
3407
2411
3412
7402
3405
2402
3411
2403
5411
2414
3406
2407
2405
1002
3410
2207
3404
7401
2415
3408
2

CONNECTORS

Control Connector
(View onto Radio-PCB)

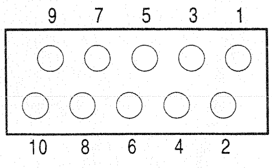

MONITOR 2
ENABLE 4
CLOCK 6
DATA 8
1 ME/FE (optional)
3 ON/OFF Switch
5 GND
7 +14 V

Head Connector
(View onto Radio-PCB)

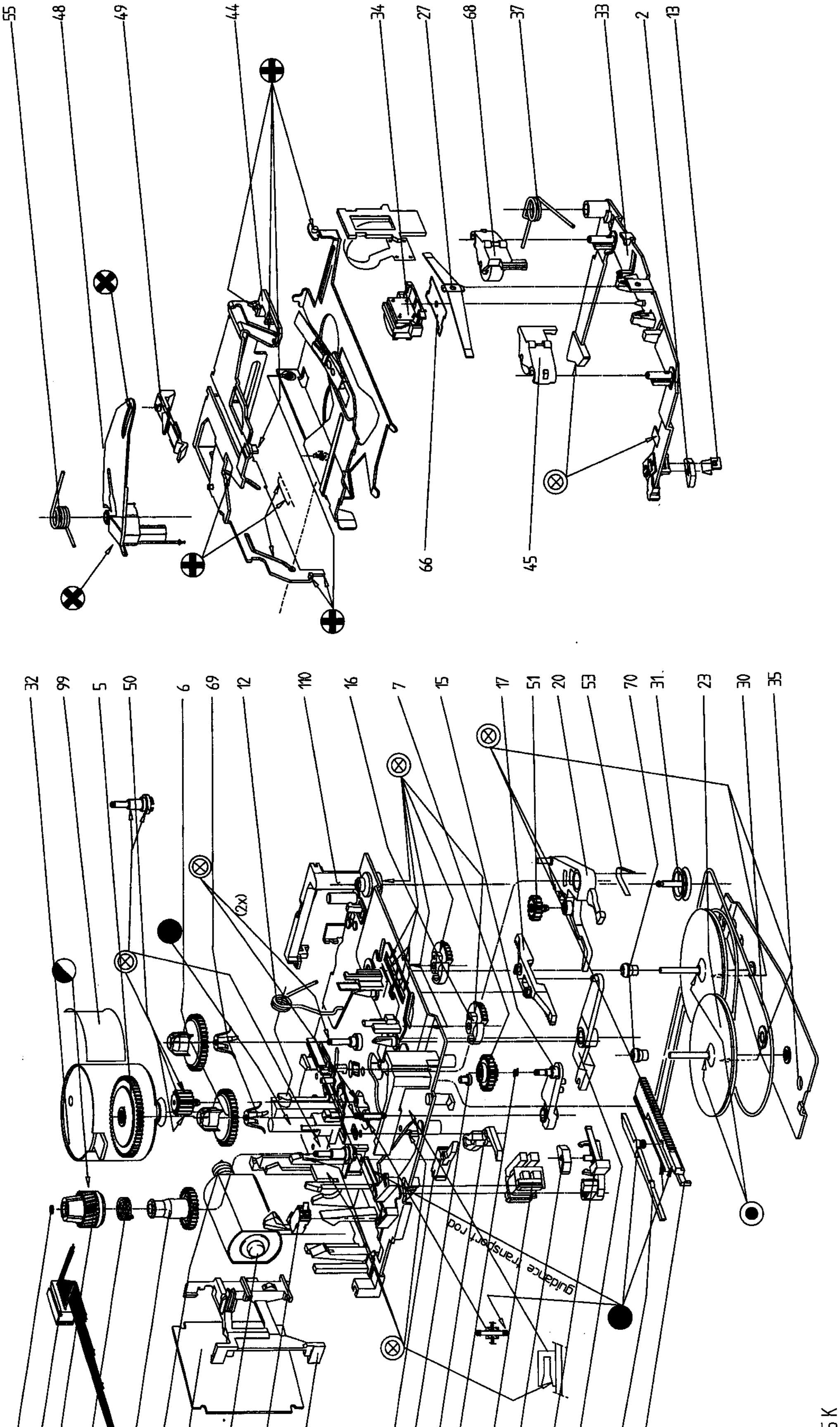

1 COMMON GND
2 LEFT NOR
3 RIGHT NOR
4 RIGHT REV
5 LEFT REV

Front of Radio ↓

Deck Connector (Pos.1003)
(View onto Control-PCB)


9
7
5
3
1
10
8
6
4
2

1: Capstan +
2: Capstan -
3: ON/OFF Switch
4: GND
5: Servomotor +
6: Servomotor -
7: Magnet -
8: Magnet +
9: ME/FE Switch
10: GND


55
48
49
44
34
27
68
37
33
2
13
66
45
32
99
5
50
6
69
12
110
16
7
15
17
51
20
53
70
31
23
30
35
(2x)
guidance transport rod
65
111
58
57
59
4
113
14
60
112
26
29
54
43
1
3
8
18
21
25

⊕ Gleitmo 805 K
◉ Mobil SHC 634
● Contact Oel
PDP 65
⊗ Topas L30
✖ Gleitmo 585 K
◐ SM30 TF

MECHANICAL PARTS

1	4822 281 11051	DOUBLE
2	4822 404 21083	ANCHOR ON SUPPORT 33
3	4822 404 21084	ANCHOR IN HOLDER 8
5	4822 522 32868	WHEEL IDLER
6	4822 528 10776	CARRIER
7	4822 528 70658	ASSY
8	4822 404 21087	FOR ANCHOR 2
1	4822 492 70556	FOR ANCHOR 2
14	4822 361 30297	SERVO ASSY
16	4822 522 32869	NORMAL/REVERSE
17	4822 404 21089	DRIVING 16
20	4822 404 21086	ASSY SERVO GEARWHEEL
23	4822 528 81378	FLYWHEEL
26	4822 277 11215	ON/OFF
27	4822 492 70557	FOR PRES. ROLLER 45
29	4822 502 12548	FIX MOTOR 32
30	4822 358 31053	BELT, DRIVING
31	4822 528 81144	DIVERTING BELT
32	4822 361 30294	CAPSTAN
33	4822 404 21088	FOR HEAD,PRES.ROLLR
34	4822 249 30157	WITH FLEXPRINT
44	4822 466 82631	FOR CASSETTE
45	4822 528 81377	REVERSE
48	4822 404 21091	EJECT
49	4822 404 21092	HOLDING CASSETTE
50	4822 522 32871	COUPLING
59	4822 522 10435	ASSY
60	4822 277 11216	ME/CR
65	4822 532 52348	FOR CARRIER CLUTCH
68	4822 528 81449	NORMAL
69	4822 492 70926	UNDER CARRIER
70	4822 520 30539	FOR FLYWHEEL
111	4822 321 61954	CABLE, CONNECT
112	4822 256 92048	FOR PCB
113	4822 214 52077	PCB KOMPL.

ELECTRICAL PARTS

2207	5322 122 32654	22NF10%X7R 63V
2401	4822 124 22748	10UF 10V
2402	4822 122 33127	2,2NF10%X7R 63V
2403	4822 122 33178	1NF 20% X7R 50V
2404	4822 124 23279	22UF20% 16V
2405	5322 122 32654	22NF10%X7R 63V
2406	4822 124 41013	2,2UF 25V
2407	5322 122 32654	22NF10%X7R 63V
2411	4822 122 33177	10NF 20% X7R 50V
2413	4822 124 23279	22UF20% 16V
2414	5322 122 32654	22NF10%X7R 63V
3401	4822 051 20822	8K20 5% 0,1W
3402	4822 051 20102	1K00 5% 0,1W
3403	4822 051 20332	3K30 5% 0,1W
3404	4822 051 20472	4K70 5% 0,1W
3405	4822 116 40241	3K6 PTC
3406	4822 051 20123	12K00 5% 0,1W
3407	4822 051 20243	24K00 5% 0,1W
3408	4822 053 10399	39R00 5% 1W
3409	5322 101 11014	5K POTMETER
3410	4822 051 20153	15K00 5% 0,1W
3411	4822 051 20689	68R00 5% 0,1W
3412	4822 051 20183	18K00 5% 0,1W
5411	4822 050 21008	1R00 1% 0,6W
5412	4822 050 21008	1R00 1% 0,6W
7401	4822 209 32207	TDA3611
7411	4822 130 32911	BYV10-30
7412	4822 130 32911	BYV10-30

AIDS AND TOOLS

100	4822 390 10107	ISOFLEX PDP65
101	4822 390 20128	TOPAS L30
103	4822 390 10123	MOBIL OIL SHC 634
104	4822 390 20027	GLEITMO 805K
105	4822 390 20128	L30 TF
107	4822 390 20139	GLEITMO 585K